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Forest
Service

Southwestern
Region

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Proposed Kaibab National Forest Plan

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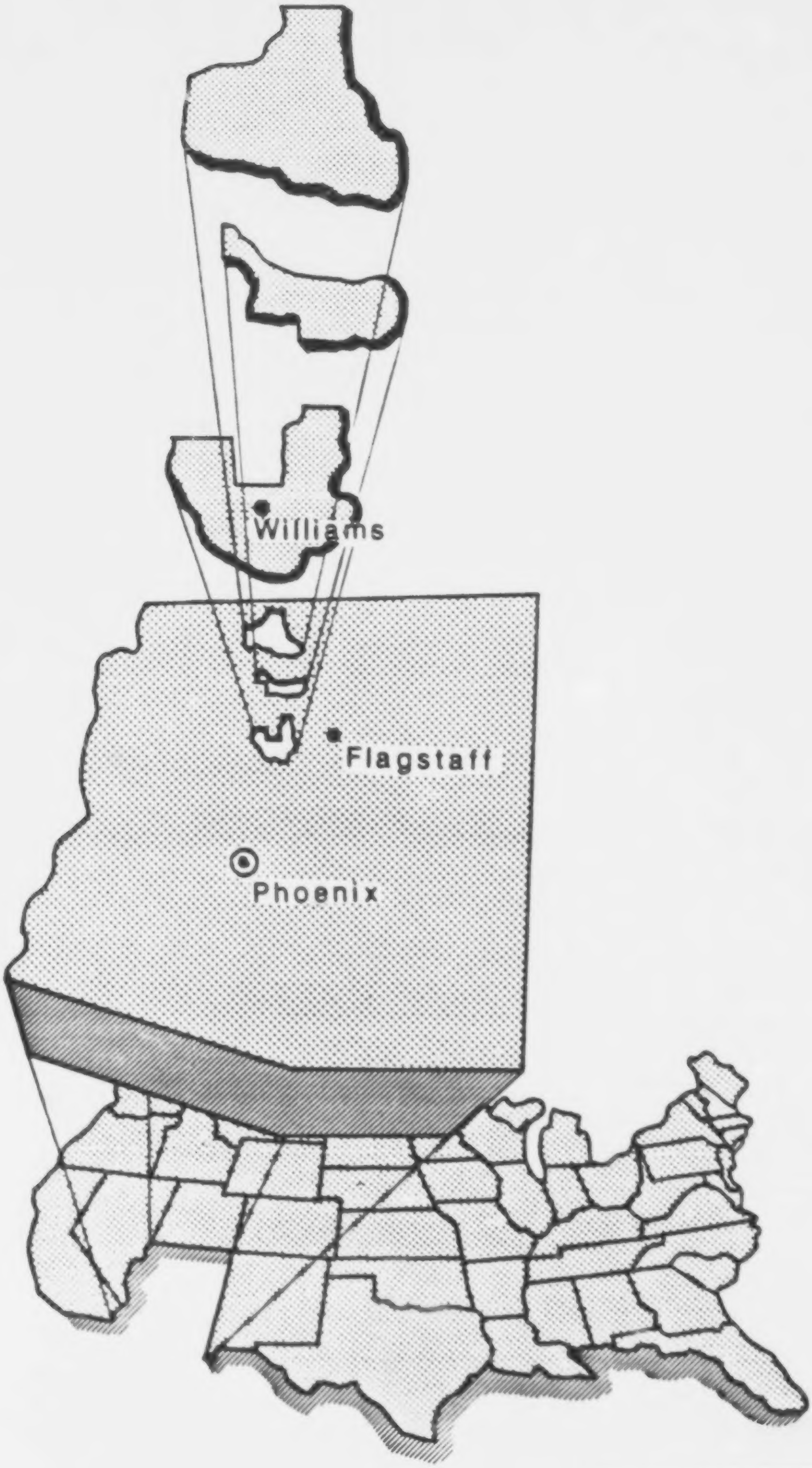
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Proposed Kaibab National Forest Plan

Table of Contents

TOPIC PAGE

1. Introduction

Purpose of the Plan 1
Organization of the Proposed Forest Plan 2
Planning Area Description 2

2. Public Issues and Management Concerns

Overview 3
Issues 3
  Commercial Timber 4
  Fuelwood 4
  Range 5
  Watershed 5
  Developed Recreation 5
  Dispersed Recreation 5
  Transportation System 6
  Wildlife Habitat 6
  Cultural Resources 7
  Wilderness and Special Areas 7
  Lands 7
  Minerals Management 7

3. Summary of the Analysis of the Management Situation

Overview 9

4. Management Direction

Overview 11
Mission 11
Goals 11
Management Areas
  Management Area 1 27
  Management Area 2 45
  Management Area 3 65
  Management Area 4 83
  Management Area 5 91
  Management Area 6 97
  Management Area 7 113
  Management Area 8 121
  Management Area 9 131
  Management Area 10 149
  Management Area 11 167
  Management Area 12 183
  Management Area 13 199
  Management Area 14 207
  Management Area 15 215
  Management Area 16 229
  Management Area 17 247
  Management Area 18 265

5. Monitoring Plan

Introduction 283
Monitoring Objective 283
Resource Activities 283

Glossary 297

Appendices

Appendix A: Description of Work Activities and Definitions 321
Appendix B: Supplementary Timber Resource Exhibits 331

List of Tables

Table	Title of the Table	Page
1	Average Annual Allowable Sale Quantity (MMBF) in Planning Period 1	4
2	Average Annual Fuelwood Output (MMBF) in Planning Period 1	4
3	Average Annual Grazing Capacity and Intensity of Range Management	5
4	Average Annual Developed Recreation Output (RVD) in Planning Period 1	5
5	Average Annual Dispersed Recreation Output (RVD) in Planning Period 1	6
6	Acres Closed to Off-Road Vehicle Use	6
7	Change in Habitat Diversity Index in Planning Period 1	7
8	Old-Growth Habitat in Planning Period 1	7
9	Average Annual Wildlife and Fish Use in Planning Period 1	7
10	Comparison of Selected Outputs to Potential Supply and Projected Use	9
11	Land Classification	15
12	Schedule of Sawtimber and Products Offered in Planning Period 1	15
13	Acres of Vegetative Treatment by Resource Activity in Planning Period 1	18
14	Rights-of-Way to be Acquired in Planning Period 1	22
15	Dispersed Recreation Investments Scheduled in Planning Period 1 and Decade 2	22
16	Developed Recreation Investments for Public and Private Sector Sites	23
17	Summary of Off-Road Vehicle Area Closures	24
18	Summary of Visual Quality Objectives	25
19	Land Classification in Management Area 1	29
20	Vegetative Treatment by Resource Activity in Management Area 1 in Planning Period 1	30
21	Off-Road Vehicle Area Closures in Management Area 1	34
22	Allocation of Coniferous Forest Stands in Management Area 1 for Old-Growth Habitat	35
23	Land Classification in Management Area 2	47
24	Vegetative Treatment by Resource Activity in Management Area 2 in Planning Period 1	48
25	Off-Road Vehicle Area Closures in Management Area 2	52
26	Allocation of Coniferous Forest Stands in Management Area 2 for Old-Growth Habitat	54
27	Acres of Intermediate Harvest in Management Area 2 in Planning Period 1	57
28	Land Classification in Management Area 3	67
29	Vegetative Treatment by Resource Activity in Management Area 3 in Planning Period 1	68
30	Off-Road Vehicle Area Closures in Management Area 3	72
31	Allocation of Coniferous Forest Stands in Management Area 3 for Old-Growth Habitat	73
32	Land Classification in Management Area 4	84
33	Land Classification in Management Area 5	91

List of Tables

Table	Title of the Table	Page
34	Land Classification in Management Area 6	98
35	Vegetative Treatment by Resource Activity in Management Area 6 in Planning Period 1	99
36	Allocation of Coniferous Forest Stands in Management Area 6 for Old-Growth Habitat	104
37	Land Classification in Management Area 7	114
38	Operating Season for Public Sector Recreation Development Sites	118
39	Operating Season for Private Sector Recreation Development Sites	119
40	Land Classification in Management Area 8	122
41	Operating Season for Proposed Public Sector Recreation Development Sites	126
42	Operating Season for Proposed Private Sector Recreation Development Sites	126
43	Land Classification in Management Area 9	133
44	Vegetative Treatment by Resource Activity in Management Area 9 in Planning Period 1	134
45	Off-Road Vehicle Area Closures in Management Area 9	137
46	Allocation of Coniferous Forest Stands in Management Area 9 for Old-Growth Habitat	139
47	Land Classification in Management Area 10	151
48	Vegetative Treatment by Resource Activity in Management Area 10 in Planning Period 1	152
49	Allocation of Coniferous Forest Stands in Management Area 10 for Old-Growth Habitat	157
50	Acres of Intermediate Harvest in Management Area 10 in Planning Period 1	159
51	Land Classification in Management Area 11	168
52	Vegetative Treatment by Resource Activity in Management Area 11 in Planning Period 1	169
53	Allocation of Coniferous Forest Stands in Management Area 11 for Old-Growth Habitat	174
54	Land Classification in Management Area 12	185
55	Vegetative Treatment by Resource Activity in Management Area 12 in Planning Period 1	186
56	Allocation of Coniferous Forest Stands in Management Area 12 for Old-Growth Habitat	191
57	Land Classification in Management Area 13	200
58	Land Classification in Management Area 14	208
59	Land Classification in Management Area 15	216
60	Vegetative Treatment by Resource Activity in Management Area 15 in Planning Period 1	217
61	Allocation of Coniferous Forest Stands in Management Area 15 for Old-Growth Habitat	222
62	Land Classification in Management Area 16	231
63	Vegetative Treatment by Resource Activity in Management Area 16 in Planning Period 1	232
64	Off-Road Vehicle Area Closures in Management Area 16	235
65	Allocation of Coniferous Forest Stands in Management Area 16 for Old-Growth Habitat	237
66	Acres of Intermediate Harvest in Management Area 16 in Planning Period 1	240
67	Land Classification in Management Area 17	248

Table	Title of the Table	Page
68	Vegetative Treatment by Resource Activity in Management Area 17 in Planning Period 1	249
69	Off-Road Vehicle Area Closures in Management Area 17	252
70	Allocation of Coniferous Forest Stands in Management Area 17 for Old-Growth Habitat	254
71	Acres of Intermediate Harvest in Management Area 17 in Planning Period 1	257
72	Land Classification in Management Area 18	267
73	Vegetative Treatment by Resource Activity in Management Area 18 in Planning Period 1	268
74	Off-Road Vehicle Area Closures in Management Area 18	271
75	Allocation of Coniferous Forest Stands in Management Area 18 for Old-Growth Habitat	273
76	Acres of Intermediate Harvest in Management Area 18 in Planning Period 1	276

1. Introduction

PURPOSE OF THE PLAN

This Forest Plan establishes the direction for managing the Kaibab National Forest for the next 10 to 15 years. Preparation of this Plan is required by the Renewable Resources Planning Act (RPA), as amended by the National Forest Management Act (NFMA). It provides for integrated multiple use and sustained yield of goods and services from the Forest in a way that maximizes net public benefits in an environmentally sound manner.

This Forest Plan replaces all previous resource management plans prepared for the Forest. Upon approval of this Forest Plan, all subsequent activities affecting the Kaibab National Forest, including budget proposals, will be based on this Plan [36 CFR 219.10 (e)]. In addition, all permits, contracts, and other instruments for the use and occupancy of these National Forest System Lands must be consistent with the Forest Plan [36 CFR 219.10 (e)].

The planning principles in the NFMA regulations [36 CFR 219.10 (b)] have been integrated into the planning process. These principles are:

(1) Establishment of goals and objectives for multiple-use and sustained-yield management of renewable resources without impairment of the productivity of the land;

(2) Consideration of the relative values of all renewable resources, including the relationship of nonrenewable resources, such as minerals, to renewable resources;

(3) Recognition that the National Forests are ecosystems and their management for goods and services requires an awareness and consideration of the interrelationships among plants, animals, soil, water, air, and other environmental factors within such ecosystems;

(4) Protection and, where appropriate, improvement of the quality of renewable resources;

(5) Preservation of important historic, cultural, and natural aspects of our national heritage;

(6) Protection and preservation of the inherent right of freedom of American Indians to believe, express, and exercise their traditional religions;

(7) Provisions for the safe use and enjoyment of the forest resources by the public;

(8) Protection, through ecologically compatible means, of all forest and rangeland resources from depredations by forest and rangeland pests;

(9) Coordination with the land and resource planning efforts of other Federal agencies, State and local governments, and Indian tribes;

(10) Use of a systematic, interdisciplinary approach to ensure coordination and integration of planning activities for multiple-use management;

(11) Early and frequent public participation;

(12) Establishment of quantitative and qualitative standards and guidelines for land and resource planning and management;

(13) Management of National Forest System Land in a manner that is sensitive to economic efficiency; and

(14) Responsiveness to changing conditions of land and other resources and to changing social and economic demands of the American people.

Land management prescriptions and standards and guidelines are statements of the management direction in this Plan; however projected outputs, services, and rates of implementation are dependent on the annual budget process. Implementation schedules can be modified to reflect the actual annual budgets and amended accordingly following appropriate public notification.

ORGANIZATION OF THE PROPOSED FOREST PLAN

Chapter 2 of this proposed Forest Plan describes the significant issues and concerns and how this Forest Plan responds to these issues and concerns. Chapter 3 is a summary of the analysis of the management situation. It discusses the current production levels, projected supply, and expected future use of goods and services in the Forest. Chapter 4 details the mission, goals, objectives, vicinity, and timing of management practices; and describes management direction, prescriptions and associated resource management standards and guidelines. A map of the Proposed Action, keyed to the management areas in Chapter 4, is included with this Plan and associated EIS. Chapter 5 is the monitoring plan. The Glossary defines terms used in this Plan.

PLANNING AREA DESCRIPTION

The Kaibab National Forest is comprised of three separate land areas located in the northern (Arizona Strip) and north central area of Arizona. Communities near or adjacent to the Forest are Fredonia, Jacob Lake, Tusayan, Grand Canyon Village, Parks, Williams, and Ash Fork. The nearest large city is Flagstaff.

This National Forest is comprised of 1.6 million acres, of which 43.5 thousand acres are in other ownerships. It has four Ranger Districts: Williams RD, Chalender RD, North Kaibab RD, and Tusayan RD. The Forest lies principally in Coconino County, but there are small areas in Yavapai and Mohave Counties. There is one designated National Game Preserve, the Grand Canyon National Game Preserve, and all or part of four designated Wilderness Areas, Sycamore Canyon, Kanab Creek, Kendrick Mountain, and Saddle Mountain within this National Forest.

2. Public Issues and Management Concerns

OVERVIEW

The significant issues relating to the management and use of the Kaibab National Forest have been identified as part of the planning process. The Forest Plan, and alternatives to it are designed to respond to these issues as well as the RPA Program objectives assigned to the Forest in the Southwestern Regional Guide.

Issues were identified during the scoping process from such sources as the Regional Guide, comment solicited from the public and from Forest Service employees. People made their comments known at a series of public meetings and open houses, and by written comment through an information and response form mailed to interested and affected people.

Comments were analyzed to identify the most significant issues. Identified issues were further analyzed, screened, and studied to form a list of final issues that has guided the planning process.

The significant issues were finalized after careful screening to determine whether each issue is: (1) relevant to the Kaibab National Forest, (2) Forest-wide in scope, (3) within the Regional Forester's authority to resolve, (4) long-term in duration, (5) within the physical and budgetary capability of the Forest, (6) identified with associated goals and objectives, and (7) possess significance in terms of existing or anticipated conflicts. In addition, each issue had to involve a land or resource use situation with demonstrable and measurable progress toward solution in the first decade.

Direction from the Secretary of Agriculture led to additional public involvement relative to the wilderness issue and a re-evaluation of the Forest's roadless areas. In August of 1983, two State-wide and three local open houses were held to gather input on the roadless area review. Subsequently, the wilderness issue was resolved with the approval of the Arizona Wilderness Act on August 28, 1984.

It became evident in the spring of 1985 that minerals management and mining in the Kaibab National Forest is controversial, and based on public comment, the issue regarding minerals management was approved for the Kaibab National Forest.

ISSUES

The Forest Plan responds to the significant issues in specific ways. This chapter briefly describes how the Forest Plan responds to the issues; however for a thorough discussion of this response refer to Chapter 4 of the Environmental Impact Statement that accompanies this document.

The following are the significant issues treated in the Forest Plan.

— Commercial Timber

— Fuelwood

— Range

— Watershed

-- Developed Recreation

— Dispersed Recreation

— Transportation System

— Wildlife Habitats

— Cultural Resources

— Wilderness and Special Areas

— Land Ownership Adjustments

-- Minerals Management

Commercial Timber

There are approximately 1,394,656 forested acres in the Kaibab; 490,208 are classified as tentatively suitable timberland. This Plan allocates 439,944 acres, or 90 percent of the tentatively suitable timberland, to timber production. This area is estimated to have a maximum annual long-term sustained yield capacity of 20,743 MCF. Implementation of this Forest Plan will achieve approximately 73 percent of this capacity in the first decade, or 15,053 MCF annually.

The conflict between the management of the timber resource and wildlife habitat needs is addressed by (1) incorporating guidelines for stand treatments that respond to habitat diversity goals, (2) reduction in the number of acres allocated for commercial timber production, (3) allocation of stands with rotations extended to not less than 210 years, and (4) protection of critical habitat elements, e.g. snags, cover areas, riparian areas, openings, roost-tree groups, and water sources.

Insect and disease situations are addressed, on a priority basis, through the application of silvicultural measures.

Visual quality concerns are addressed by specifying: (1) condition class distribution objectives, (2) stands with extended rotations, (3) stand sizes and entry intervals, and (4) species diversity for visually sensitive topographic features and road corridors.

Table 1. Average Annual Allowable Sale Quantity (MMBF) in Planning Period 1

	Proposed	Current
Sawtimber and Products	73	63

Fuelwood

There is a lack of reliable fuelwood information concerning the fuelwood resource in this Forest. This Plan provides for the collection of inventory information from all forested acres, and as a minimum, stand mapping and vegetative and condition class typing of all forested acres.

Commercial and personal-use fuelwood programs are concentrated in the pinyon-juniper woodland. These programs provide a cost-effective mechanism to accomplish timber management objectives and wildlife habitat, soil and watershed, and range non-structural improvements. Commercial and personal-use sales of Gambel oak and aspen are made to accomplish wildlife habitat improvements. Increased substitution of pine slash for Gambel oak and aspen is encouraged.

This Plan provides for a fuelwood output that satisfies the estimated demand of 11.1 MMBF per year in planning period 1. Approximately 80 percent of this demand is supplied with green pinyon and juniper. The remaining 20 percent is supplied from the coniferous residue of commercial timber sales. The quantity of available coniferous residues exceeds the total estimated future demand in planning period 1. This additional volume is available if the actual demand should exceed that which is anticipated.

Table 2. Average Annual Fuelwood Output (MMBF) in Planning Period 1

Green Pinyon -Juniper	Conifer Residues Available From Commercial Timber Sales	Total Available
8.8	8.2	17.0

Range

This Plan balances permitted grazing use with grazing capacity and intensifies management by the end of planning period 1. This intensification of management coupled with the retreatment of range non-structural improvements and the maintenance of structural improvements generates a modest increase in grazing capacity across the planning horizon. Additional grazing capacity, resulting from soil and watershed improvements and transitory forage produced after timber and fuelwood harvesting, is also captured. The amount of rangeland in unsatisfactory condition is expected to decrease during the 50-year planning horizon in direct response to the intensity of range management specified in the Plan.

Table 3. Average Annual Grazing Capacity and Intensity of Range Management

Grazing Capacity (MAUM)	Level of Range Management Intensity (Acre)				
Planning Period 1	A	B	C	D	E
70	3,772	445,900	68,700	333,400	0

Watershed

There are approximately 350,000 acres in unsatisfactory watershed condition in this Forest. Watershed condition is improved on 196,691 acres during the five planning decades. This is a reduction from 349,425 acres in unsatisfactory condition in decade one to 152,734 acres in decade five because of restoration treatment accomplished through watershed and wildlife habitat improvements. This eliminates 56 percent of the unsatisfactory acreage and essentially brings all watersheds into satisfactory condition. On-site soil loss is reduced 17 percent in the period between decade one and five; all of this reduction occurs in the woodland vegetative type. Water yield varies from 298,904 acre-feet per year in decade four to 302,689 acre-feet in decade five. Fuelwood harvesting followed by seeding of grasses and forbs also improves watershed condition, range condition and wildlife habitat.

Developed Recreation

This Plan provides for management of all public sector sites at the standard service level. Replacement of substandard facilities and improvement of public sector campgrounds will upgrade sites to their original design standards.

The additional capacity needed to meet projected demand for developed recreation in the early decades is provided through the expansion of existing lodge ,facilities and the construction of new private sector campgrounds. Proposed public sector investments are scheduled in later decades to defer government expenditures.

Table 4. Average Annual Developed Recreation Output (RVD) in Planning Period 1

Projected Output	Proposed	Current
Public Sector	314,027	314,027
Private Sector	275,855	222,984
Total Output	589,882	537,011

Dispersed Recreation

The desire for additional dispersed recreation opportunities is partially met through the construction of six fisheries, two trailheads and several miles of hiking trail in the South Kaibab unit, a cross country ski trail system, two vista point improvements, and a major hiking trail in the North Kaibab unit. Under this Plan, popular dispersed camping areas and trails receive regular inspection and maintenance.

Table 5. Average Annual Dispersed Recreation Output (RVD) in Planning Period 1

	Proposed	Current
Projected Output	279,000	254,800

Output projections exclude average annual highway use of 691,800 RVD and use associated with wildlife activities.

The existing acreage in each Recreation Opportunity Spectrum class is maintained; however additional areas are closed to off-road vehicle use to protect sensitive soils, vegetation and important aquatic habitats.

Table 6. Acres Closed to Off-Road Vehicle Use*

	Proposed	Current
Acres Closed	14,165	11,392

*These figures do not include acres of classified wilderness also closed to ORV use.

Transportation System

The Forest Transportation System consists of 946 miles of arterial and collector roads and 5,744 miles of local roads. The major concerns in this issue are restricted versus unrestricted access, road management, and road location. Densities and standards are addressed through the transportation system road management planning process to be completed in 1987. Project planning includes transportation analysis to eliminate recurrence of these problems. Maintenance and design standards to ensure a safe and economic road system are specified in the Plan.

The Plan provides for the closure and obliteration of approximately 300 miles of undesirable road in planning period one. Roads that are retained on the system are maintained at the current level and provide safe access for (1) high clearance vehicles on low-use roads, (2) low clearance vehicles on smooth surfaced, high-use roads, and (3) adequate sign system for traveller safety and information. The surface replacement for gravel surfaced roads is scheduled for 20-year intervals.

Wildlife Habitat

The desire for consumptive and nonconsumptive wildlife benefits is expected to increase. This Plan addresses this increasing demand with increased effort to improve habitats through direct and indirect methods. The Plan focuses on improved diversity, interspersion, and composition of successional stages of vegetation and it integrates desired wildlife habitat characteristics as a major consideration in the design of all vegetative treatments, whether they are for habitat improvement or for other purposes.

This Plan establishes guidelines for timber stand size and location, timing of treatments, age-class distribution, extended rotations for stands with old-growth characteristics, protection of sensitive habitats, and allocation for old-growth and snag habitats.

Direct habitat improvement is greatly increased and includes (1) prescribed burning, (2) seeding and planting of desirable browse and herbaceous species, (3) water developments, and (4) the creation of wildlife openings. Actions are also included to locate, survey and inventory habitats of plant species requiring protection.

The elevated levels of direct and indirect habitat improvement are expected to improve habitat diversity in both the short and long-term.

Table 7. Change in Habitat Diversity Index (%) in Planning Period 1

Proposed	+13.6
Current	0

Table 8. Old-Growth Habitat (Acres) in Planning Period 1

Proposed	117,764
Current	69,000

Table 9. Average Annual Wildlife and Fish Use (WFUD) in Planning Period 1

Proposed	181,000
Current	175,000

Cultural Resources

The Plan provides for cultural resource surveys in advance of all ground disturbing activities. There is, in addition, increased funding for (1) cultural resource survey of non-project areas and (2) cultural resource site evaluations.

The Beale Wagon Road is nominated for inclusion in the National Historic Trail System.

Wilderness and Special Areas

Wilderness character and quality are protected and maintained by focusing administration efforts in heavily used areas and along wilderness boundaries. The Plan provides adequate funding for regular inspection and maintenance of wilderness trails, initial boundary posting and maintenance, and preparation and publishing of maps and information brochures.

An opportunity has been identified to provide an area for scientific study through establishment of a research natural area. This Plan nominates and establishes the Garland Prairie Research Natural Area with 300 acres for the study of the Arizona fescue-mountain muhly open-prairie bunchgrass ecosystem.

Lands

This Plan identifies particular tracts of National Forest Land that are suitable for exchange and meet the needs for community expansion in the vicinity of Tusayan, Parks and Williams. Other program funding provides for the acquisition of rights-of-way, efficient management of special land uses and continuation of the land line location program.

Minerals Management

This Plan provides funding for the timely analysis and processing of locatable and leasable mineral prospecting, exploration, leasing and development proposals. Lands potentially valuable for uranium and oil and gas production are available for exploration and development. Important wildlife habitats, visually sensitive areas, habitats of threatened and endangered plants and animals, and areas with large capital investments are protected through oil and gas lease special surface use stipulations and seasonal restrictions imposed on locatable mineral prospecting and exploration activities.

3. Summary of the Analysis of the Management Situation

OVERVIEW

An analysis of the management situation was made in 1982 and subsequently revised in 1985. The record of this analysis (AMS) is on file in all Kaibab National Forest offices and the Regional Office in Albuquerque, New Mexico. This analysis demonstrates the productive capacity of the Kaibab National Forest to supply various goods and services under certain presumed conditions. The AMS document is incorporated by reference for analysis purposes into the Environmental Impact Statement and Forest Plan. The AMS is summarized in detail in Chapter 3, Affected Environment, of the Environmental Impact Statement.

Table 10 displays the estimated supply and projected use of selected outputs from the Kaibab National Forest for decades one and five. These supply and use estimates have been analyzed in order to predict and plan needed investments, resolve issues, and eliminate or minimize future conflicts. This Forest Plan displays the allocation of the amounts and kinds of forest resource investments that are necessary to produce the goods and services to satisfy projected demand across the planning horizon and maintain and enhance the resource base of the Kaibab National Forest in a cost effective manner.

Table 10. Comparison of Selected Outputs to Potential Supply and Projected Use

Resource Output	Unit of Measure	Forest Plan Decade 1	Forest Plan Decade 5	Potential Supply Decade 1	Potential Supply Decade 5	Projected Use Decade 1	Projected Use Decade 5
Sawtimber and Roundwood ASQ*	MBF	733,257	798,710	1,189,293	1,163,685	733,257	798,710
Grazing Capacity	AUM	700,000	749,676	747,254	1,121,153	780,000	1,230,000
Permitted Grazing Use	AUM	777,152	726,798	747,254	1,121,153	780,000	1,230,000
Wilderness Recreation Use	RVD	74,060	108,950	234,000	234,000	74,060	108,950
Dispersed Recreation Use	MRVD	9,710	11,179	27,000	27,000	9,710	11,129
Wildlife-fish Recreation Use	WFUD	1,811,330	1,751,100	1,942,470	2,500,000	2,320,000	5,002,000
Developed Recreation Use	MRVD	5,899	9,836	5,949	14,941	5,899	9,836

*ASQ Allowable Sale Quantity

These data indicate that this Forest is able to satisfy projected use for timber, wilderness, and dispersed and developed recreation across the five-decade planning horizon. Permitted grazing use exceeds grazing capacity in the first decade; however permitted grazing use is brought into balance with grazing capacity in the second decade through a reduction in permitted grazing use and an increase in grazing capacity in planning period 1. Increases in grazing capacity in all decades are predicated on the maintenance of existing range structural improvements by the range allotment permittee, retreatment of existing non-structural (forage) improvements, investment in additional non-structural improvements made in association with commercial thinning in timber stands, regeneration cutting in pinyon-juniper stands, and watershed improvements. The projected future demand for wildlife and fish recreation use exceeds the amount supplied in the Forest Plan in all decades.

4. Management Direction

OVERVIEW

This chapter contains the management direction for the Kaibab National Forest. It begins with a Forest-wide mission statement, followed by the goals for managing individual program components. The objectives for each program component are shown in the form of tables with the specific numeric objectives from the analysis. The final portion of the chapter describes the management prescriptions to be applied in specific management areas in the Forest. These prescriptions contain the standards and guidelines that apply until the next revision or amendment to the Forest Plan.

The Forest is divided into 18 geographically discrete management areas. All of the land within a given management area is managed under the same emphasis to ensure consistency, efficiency and integration of management practices across the management area. The multiple-use resource prescriptions allocated to the analysis areas within the management area consist of a set of resource practices. These are recreation, fish and wildlife, range, timber, soil and water, minerals, landownership, land management planning, facilities, fire, and general administration. Resource practices in management prescriptions for classified wilderness areas are wilderness, range, wildlife and fish, landownership, land management planning, fire management, and general administration. In proposed and existing recreation development sites the set of management practices consists of recreation, minerals, soil and water, land management planning, fire protection, and general administration. Each practice consists of one or more major work activities. Work activities are the basic units of work that when done produce the goods and services that represent the goals and objectives of this plan. Each work activity is identified by an alpha-numeric code and a title. For example in Management Area 1, the Recreation Management Practice consists of the following major work activities: A01 Recreation Planning, A02 Inventory, A03 Cultural Resource Evaluation and Assessments, A07 Facility and Site Management, A08 Use Administration, and A12 Trail System Maintenance and Operation. All work activities are defined in 1986 - 1990 Management Information Handbook, FSH 1309.11a, which is available in all Kaibab National Forest offices. Appendix A contains a brief description of each work activity scheduled in this Plan.

Mission

A mission is a guiding principle toward which management practices focus and contribute. Mission statements are very general. They describe the general direction of the organization and are broad, comprehensive statements. They contain statements about the purpose of organizational existence and what it is expected to accomplish. They are used to validate organizational objectives.

The mission of the Forest is to manage National Forest Lands and resources using the best methods available to meet the needs and desires of present and future generations, while protecting and enhancing the environment and efficiently administering Forest programs. Conflicts over allocating resources are inevitable and will increase. The management challenge is to be responsive, equitable, efficient, and understanding in making resource management decisions.

Goals

A goal is "a concise statement that describes a desired condition to be achieved sometime in the future . . . it has no specific date by which it is to be completed." [36 CFR 219.3].

The Forest is attempting, in this 10 to 15 year period, to reorient its management so as to emphasize long range improvement of land productivity and the protection and enhancement of resource values. The goal is to achieve, by the end of decade five, a situation that can provide a wide mix of outdoor recreation opportunities, including hunting and fishing, that range from primitive to urban, and that can respond to local and regional demands for water, forage, wildlife habitats, and wood products. These outputs would be produced on a sustained basis while maintaining soil, air, and water resources at or above minimum applicable standards. Levels of outputs and uses are adjusted to be within long-term supply potentials, and to ensure the harmonious and coordinated management of all resources, each with the other, without impairing the productivity of the land. Non-renewable resources are adequately protected to ensure their future availability.

Goals have been identified for each resource element:

Outdoor Recreation

Manage the recreation resource and provide facilities to increase opportunities for a wide variety of developed and dispersed experiences.

Manage facilities and use to minimize resource degradation, and to provide for the safety and well being of the public while in the Forest.

Design resource activities to maintain and enhance visual quality.

Provide visitor information services [VIS] to interpret the resources, uses, and management of the Forest.

Maintain a variety of Forest trails, considering people's needs. Includes horseback and foot travel, winter sports, and motorized and challenge and adventure opportunities, as well as opportunities for the handicapped.

Establish ORV closures as needed to maintain other resource objectives. Manage ORV use to provide ORV opportunities while protecting resources and minimizing conflicts with other users.

Coordinate the management of recreation resources and activities with the Grand Canyon National Park, Coconino County, and the State of Arizona to complement their roles in providing outdoor recreation.

Inventory, evaluate, nominate, protect, study, interpret, and enhance cultural resources in accordance with the management prescriptions. Coordinate planning for these activities with the State Historic Preservation Office, State Archaeologist, and other State and Federal agencies.

Wilderness

Manage wilderness use so as to maintain enduring, high quality wilderness values while providing for quality wilderness recreation experiences. Allow wildfire to play a more natural role. Protect the current status of air quality related values [AQRV's] in the Sycamore Canyon Wilderness Class I Airshed and in other wildernesses.

Wildlife and Fish

Improve wildlife habitat through expanding knowledge of species requirements, development of habitat quality and diversity, and the identification and protection of key habitat.

Cooperate with the Arizona Game and Fish Department to achieve management goals and objectives specified in the Arizona Wildlife and Fisheries Comprehensive Plan, and in carrying out the cooperative agreement for the management of the Grand Canyon National Game Preserve. Support the Arizona Game and Fish Department in meeting its objectives for the state.

Improve habitat for listed threatened, endangered, or sensitive species of plants and animals and other species as they become threatened or endangered. Work toward recovery and delisting of species.

Identify and protect areas that contain threatened, endangered, and sensitive species of plants and animals.

Expand agency, conservationist, and citizen understanding and cooperation in wildlife and fishery habitat management, activities, and use.

Riparian Habitats

Initiate measures needed to ensure meeting Region 3 standards on all areas by 1995. Maintain or improve areas that are currently in good condition.

Range Grazing

Produce the maximum amount of forage, consistent with other resource values, for use by wildlife and livestock on a sustained yield basis. Benefits are improved watershed condition, range forage, wildlife habitat, and enhanced visual quality.

Manage the Double A Wild Burro territory to maintain a viable population of burros while minimizing impacts on range forage and wildlife habitats.

Cooperate with private range owners and other agencies to develop coordinated range management systems of livestock grazing where lands of other ownership are intermingled or adjacent to the National Forest.

Timber

Manage suitable timberland to provide a sustained level of timber outputs to support local dependent industries. Apply integrated stand management to improve age-class distribution, diversity, and to reduce losses from forest insect and disease pests.

Continue developing genetically superior tree stock for use in reforestation.

Apply silvicultural practices in accordance with federal regulations, and to resolve public issues and concerns and site specific resource objectives.

Concentrate fuelwood programs in the pinyon-juniper woodland to accomplish timber management, wildlife habitat, soil and watershed, and range improvement objectives. Encourage substitution of coniferous residues from commercial timber harvest for preferred fuelwood sources.

Collect reliable information from unsuitable and suitable lands necessary for both operational and long-range planning.

Soil, Water, and Air Quality

Maintain soil productivity and watershed condition. Rehabilitate non-productive lands on a planned basis to eliminate unsatisfactory watershed condition by 2020. Maintain a high quality sustained water yield for Forest users and others. Identify and protect wetlands and floodplains.

Minerals

Administer the mineral laws and regulations to minimize adverse surface resource impacts. Support sound energy and minerals exploration and development.

Lands

Acquire lands that are needed for landownership consolidation and improved management efficiency through land exchange, purchase, or donation.

Acquire the road and trail rights-of-way needed to administer the Forest and provide public access.

Identify and locate landlines to protect National Forest landownerships by detecting and resolving unauthorized occupancy and trespass.

Administer the Small Tracts Act to best serve the public and the resources.

Administer special uses to best meet public needs.

Minimize the number of electronic sites and utility corridors consistent with appropriate public services that can only be met on Forest lands.

Transportation and Administrative Facilities

Provide and manage a serviceable road transportation system that meets needs for public access, land management, resource protection, and user safety. Provisions are made for the construction and reconstruction, maintenance, seasonal and special closures of Forest roads; and obliteration of unnecessary roads.

Provide administrative facilities to meet resource and activity needs and that meet Federal and State pollution abatement standards where applicable.

Rehabilitate or replace administrative facilities and sewer and water systems as needed to improve management efficiency and insure public and employee health and safety.

Fire Protection

Use prescribed fire as a resource management tool where it can effectively accomplish resource objectives. Fire management, prevention, and control are used to protect life, property, and resources.

Law Enforcement

Cooperate with State and local law enforcement agencies to properly protect Forest resources, employees, visitors, and property.

Special Areas

Identify, recommend, and protect potential Research Natural Areas.

Manage specially designated areas according to the enabling orders and to protect their special qualities.

Public Affairs

Provide for public participation in and information about Forest management. Involve the public at appropriate points in every decision making process. Seek advice and counsel from people who are affected by Forest management.

Human Resources

Manage human resource programs to provide employment, rehabilitation, or other designated objectives while meeting natural resource goals.

Land Management Planning

Provide coordination and ensure interdisciplinary input for implementing, monitoring, and updating the Forest Plan.

General Administration

Provide the organization and administrative support needed to ensure responsive and efficient public land management.

Table 11. Land Classification

Land Classification	Acres
1. Non-forested land	139,787
2. Forested land	1,394,656
3. Forest land withdrawn from timber production	50,897
4. Forest land not capable of producing crops of industrial wood	685,563
5. Forest land physically not-suitable	167,988
6. Forest land - inadequate information	0
7. Tentatively suitable timberland	490,208
8. Suitable timberland not-appropriate for timber production	50,264
9. Total not-suitable forest land	954,712
10. Total suitable timberland	439,944
11. Total National Forest Land	1,534,443

Table 12. Schedule of Sawtimber and Products Offered in Planning Period 1

Management Area	Timber Sale Name	Gross Acres	Volume (MMBF)	Local Terminal Road (Mile) Construction	Reconstruction	Maintenance
			FY 1986			
16	Order	3,330	10.0	4.3	8.2	22.0
2	Moritz 1	10,522	4.8	1.0	12.8	5.9
18	Tipover	7,312	13.4	5.0	14.0	20.0
16	Lambs Lake	6,100	19.7	1.0	27.0	19.0
2	Holden	600	.5	0	.5	15.0
16	Moquitch	3,922	20.8	0	14.0	13.0
	Small sales-roundwood	1,500	.3	0	0	0
	Total		69.5			
			FY 1987			
2	Spring	4,003	5.0	.8	10.8	5.0
16	Murray	9,800	8.7	0	9.0	9.0
16	Mistletoe	5,327	24.0	.4	16.4	17.0
18	Bear Springs	6,694	13.5	.3	27.2	24.0
10	Gallo	20,919	4.5	.9	11.2	5.2
16	Nail	2,052	15.5	0	9.5	17.0
2	Pine Flat	2,500	.4	.2	.2	1.0
2	McCracken	4,000	4.0	0	11.0	11.0
	Small sales-roundwood	1,500	.5	0	0	0
	Total		76.1			

Table 12. (cont.) Schedule of Sawtimber and Products Offered in Planning Period 1

Management Area	Timber Sale Name	Gross Acres	Volume (MMBF)	Local Terminal Road	(Mile)	
				Construction	Reconstruction	Maintenance
			FY 1988			
16	LeFevre	6,640	23.0	1.0	3.0	31.0
18	Pine Hollow	1,585	10.0	0	1.0	6.0
16	Little Miss	670	3.5	0	1.0	2.0
18	Top Grouse	8,281	9.0	2.0	12.0	25.0
18	Snipe	4,214	15.5	2.0	16.0	16.0
2	Kaufman 2	1,865	1.0	.4	4.6	2.1
2	Valley	5,460	3.3	.7	9.2	4.2
2	Sycamore	8,000	6.5	1.0	10.8	5.0
	Small sales-roundwood	1,500	.5	0	0	0
	Total		72.3			
			FY 1989			
16	Oak	7,500	21.0	0	1.0	35.0
18	Warm Springs	4,600	15.0	0	1.0	22.0
18	Little Mountain	4,528	18.0	1.0	2.0	22.0
17	Marble	11,500	11.0	3.0	16.0	35.0
10	Camp 36	2,739	2.0	.4	5.2	2.4
2	Twin	2,420	2.5	.4	5.4	2.5
2	MC	2,943	2.0	.3	4.2	2.0
2	Mineral	3,086	4.0	.7	8.6	4.0
	Small sales-roundwood	1,500	.5	0	0	0
	Total		76.0			
			FY 1990			
2	Parks	10,573	3.0	.7	8.5	3.9
16	Big Springs	6,300	25.0	1.0	9.0	20.0
18	Grassy	5,400	21.0	1.0	8.0	16.0
16	Franko	4,600	15.0	0	1.0	22.0
2	Pine Springs	8,615	4.5	.9	11.2	5.2
10	Upper Ten-X	2,340	2.0	.4	5.7	2.6
2	Pine Hill	5,427	2.0	.4	5.7	2.6
	Small sales-roundwood	1,500	.5	0	0	0
	Total		73.0			
			FY 1991			
17	Red Point	7,400	20.0	2.0	10.0	23.0
18	South Fork	5,000	14.0	1.0	7.0	15.0
18	Burnt Rim	2,800	14.0	1.0	4.0	8.0
2	Oak	4,446	2.0	.4	5.7	2.6
2	Aspen	4,669	2.0	.7	8.5	3.9
2	Dogtown	5,788	2.0	.7	8.5	3.9
2	Reneke	3,927	2.0	.4	5.7	2.6
10	Grandview Mistletoe	3,379	2.0	.4	5.7	2.6
2	Brannigan	10,448	1.5	.3	4.2	2.0
18	Coug	5,400	13.0	1.0	8.0	16.0
	Small sales-roundwood	1,500	.5	0	0	0
	Total		73.0			

Table 12. (cont.) Schedule of Sawtimber and Products Offered in Planning Period 1

Management Area	Timber Sale Name	Gross Acres	Volume (MMBF)	Local Terminal Road (Mile) Construction	Reconstruction	Maintenance
			FY 1992			
16	Big Fracus	6,600	23.0	2.0	9.0	20.0
16	Wild Horse	4,035	7.8	1.0	3.0	28.0
18	Lookout Canyon	2,500	12.0	1.0	3.0	8.0
2	Round	8,807	2.0	.4	5.7	2.6
2	Elk	7,255	2.0	.4	5.7	2.6
2	Pumpkin 2	3,431	2.7	.5	6.5	3.0
2	Government	2,733	2.8	.5	6.0	2.7
10	Mudersbach	3,379	2.0	.4	5.7	2.6
17	Kane	8,200	18.0	2.0	11.0	25.0
	Small sales-roundwood	1,500	.5	0	0	0
	Total		72.8			
			FY 1993			
2	Moritz 2	4,522	2.5	1.0	6.0	2.7
2	Beacon	6,082	4.0	.7	8.6	4.0
2	Kennedy	7,237	2.0	.4	5.7	2.6
16	Corral Lake	4,800	19.0	1.0	7.0	15.0
18	Burnt Saddle	4,900	22.0	1.0	7.0	15.0
18	Riggs Canyon	3,300	20.0	1.0	4.0	10.0
2	Tule	8,000	2.0	0	5.0	3.0
10	Tusayan	3,179	2.0	.4	5.7	2.6
	Small sales-roundwood	1,500	.5	0	0	0
	Total		74.0			
			FY 1994			
2	Saginaw	10,058	2.0	.4	5.7	2.6
16	Glen	4,900	22.0	1.0	7.0	15.0
18	Sowhat	3,900	19.0	1.0	5.0	12.0
18	Steak	2,200	20.0	1.0	3.0	6.0
2	Dutch Kid	3,108	1.0	.3	4.2	2.0
10	Red Horse	5,179	2.0	.4	5.7	2.6
2	McDermit	1,715	1.5	.3	5.0	2.3
2	Garland	6,212	2.0	.4	5.7	2.6
	Small sales-roundwood	1,500	.5	0	0	0
	Total		70.0			
			FY 1995			
2	Hidden	9,582	2.0	.4	5.7	2.6
16	Cabin	4,100	12.0	1.0	6.0	12.0
18	Paris	6,700	25.0	2.0	9.0	20.0
18	Road Hollow	3,200	24.0	1.0	4.0	10.0
2	Lee	3,427	2.0	.4	5.7	2.6
10	Watson	5,179	2.0	.4	5.7	2.6
2	Pomeroy	3,681	2.5	.5	6.0	2.7
2	Moose	4,428	3.0	.3	5.7	2.4
	Small sales-roundwood	1,500	.5	0	0	0
	Total		73.0			
	Total Planning Period 1		729.7			

Table 13. Acres of Vegetative Treatment by Resource Activity in Planning Period 1

I. Pinyon-Juniper Woodland Not-Suitable:

Resource Activity	Acres	Rationale
A. Regeneration harvest		
1. Shelterwood seed cut:	3,164	This activity is applied to regenerate mature pinyon-juniper stands. The shelterwood method is appropriate because it is cost effective, maintains a partial canopy, provides a natural seed source, and a favorable microclimate for seedling establishment. Phenotypically desireable trees are retained for seed production.
B. Range non-structural improvement - seeding:	3,164	This activity is applied following the completion of the seed cut, above. This activity re-captures the capacity of the site to produce forage, stabilizes and maintains soil properties, improves hydrologic conditions, increases vegetative and habitat diversity, and provides forage for livestock and wildlife.
C. Wildlife non-structural habitat improvement:	82,928	
1. Fuelwood special cutting:	25,230	Fuelwood special cutting is applied in relatively large, homogenous, mature pinyon-juniper stands to harvest firewood and to create numerous, but relatively small "openings", and consequently "edge", which increases and improves vegetative diversity, wildlife habitat, improves hydrologic condition, and maintains and stabilizes soil properties in the most cost effective manner.
2. Prescribed burning:	19,860	Burning stimulates new growth of forbs and browse plants to benefit wildlife and livestock grazing. It increases and improves the grass and forb component by reducing or eliminating pinyon-juniper competition in the most cost-efficient manner.
3. Seeding and planting:	35,510	Seeding improves forage cover for wildlife and increases habitat capability. This activity re-captures the capacity of the site to produce forage, stabilizes and maintains soil properties, improves hydrologic conditions, increases vegetative and habitat diversity, and provides forage and browse for wildlife. Planting improves the forage and cover components of wildlife habitat by reestablishing desirable species.
D. Soil and watershed improvement - special cutting:	7,490	Special cutting for soil and watershed improvement is used to harvest the pinyon-juniper firewood on specified soil mapping units in unstable hydrolgic condition followed by establishment of suitable vegetative ground cover and construction of structures, such as check dams, to improve hydrologic response, control soil movement, and maintain or improve soil productivity.

Table 13. [cont.] Acres of Vegetative Treatment by Resource Activity in Planning Period 1

II. Seral Grassland Pinyon-Juniper Woodland Not-Suitable:

Resource Activity	Acres	Rationale
A. Wildlife nonstructral habitat improvement:	4,820	This activity includes the removal of pinyon and juniper trees from transitional pinyon-juniper forage areas. Transitory openings such as seral grasslands and meadows require periodic removal of invading trees. Treatment methods include prescribed fire where fuels are adequate and cutting.
B. Range non-structural improvement [retreatment]:	12,872	This activity re-captures and maintains the capacity of the site to produce forage and maintains and improves soil properties. It is the most-cost effective method to accomplish this task. Burning and seeding is used in the control of half-shrubs such as snakeweed or sagebrush on soils with moderate or high forage production rating and 0-15 percent slopes. Mechanical removal and seeding is applied when there are 50 to 125 trees per acre, 10 feet or more in height. Chemical treatment [herbicides] and seeding is applied when the invading trees are less than six feet in height and not more than 250 trees per acre on good forage production sites and not more than 150 trees per acre on moderate forage production sites. Hand tools and seeding is applied when the invading trees are six feet or less in height and not more than 150 trees per acre.

III. Coniferous Forest Not-Suitable Timberland:

Resource Activity	Acres	Rationale
A. Wildlife non-structural habitat improvement:	25,800	
1. Special cutting in aspen:	760	Special cutting is used to intervene in relatively large, homogenous aspen stands to create relatively small "openings", and consequently "edge" in these stands and thereby increase both vegetative and habitat diversity. Special cutting is also used to intervene in relatively large aspen stands that have been invaded by coniferous tree species to control the invading coniferous species and maintain the stand in its seral stage.
2. Prescribed burning:	13,290	Burning is used to improve forage, alter vegetative composition, and improve hiding and thermal cover for wildlife.
3. Seeding and planting:	1,850	Seeding improves forage cover for wildlife and increases habitiat capability. Planting is done to improve the forage and cover components of wildlife habitat by re-establishing desirable species. Both activities provide for increased vegetative diversity.
4. Brush control:	1,900	These activities are used to control half-shrubs such as snakeweed and sagebrush on soils with moderate or high forage production ratings and 0-15 percent slopes. Treatment methods consist of prescribed fire, where fuels are adequate, or herbicides when they are the most cost-efficient.

Table 13. (cont.) Acres of Vegetative Treatment by Resource Activity in Planning Period 1

III. Coniferous Forest Not-Suitable Timberland:

Resource Activity	Acres	Rationale
B. Treatment of natural fuels:	7,262	This activity is applied to maintain fuelbreaks and fuel reduction corridors, to reduce fuel loading in high hazard/high risk areas, and to reduce backlog and natural fuel loading to minimize the potential for high intensity fires.

IV. Coniferous Forest Suitable Timberland:

Resource Activity	Acres	Rationale
A. Precommercial thinning:	20,399	This activity is applied to sapling stands to create spacing and stocking levels that will maintain growth at acceptable rates. Diseased and poorly formed trees are removed to improve the health of stands and remove poor phenotypes.
B. Intermediate harvest:	64,337	The rationale for this activity is similar to that for precommercial thinning, but the majority of the material to be removed is sold for use.
C. Regeneration harvest:		
1. Shelterwood seed cut:	21,757	This activity is used to regenerate timber stands that have reached culmination of mean annual increment. The shelterwood method is appropriate because it is cost effective and retains an overstory (shelterwood) of phenotypically desireable trees that is a natural source of seed and a partial canopy that provides a favorable microclimate for seedling establishment. Shelterwood seed cutting is appropriate in stands that have a dwarf mistletoe rating of 2.0 or less. This ensures that the regenerated stand will be free of dwarf mistletoe infected trees. However, in stands that have reached culmination of mean annual increment and are moderately to severely infected (a dwarf mistletoe rating of 2.1 or more), shelterwood seed cutting is neither the optimal nor appropriate regeneration method. In this situation there is usually an insufficient number of disease-free trees to form a satisfactory shelterwood: a necessary condition for the establishment of the new stand. In this situation the optimum and appropriate regeneration method is clearcutting followed by planting. This method removes all infected trees and provides for the establishment of a disease-free stand in regeneration.
2. Shelterwood removal:	30,223	This is the final cutting in the shelterwood regeneration method. When regeneration is established in the regeneration harvests described above, the remaining trees are removed to allow the residual stand of seedlings to fully utilize the potential of the site.
3. Extended rotations:	65,551	Extended rotations are implemented to defer stand regeneration for 70 -120 years in order to provide for old-growth habitats that are two-storied and dwarf mistletoe free, or in response to other management requirements such as age-class distribution and budgetary limitations.

Table 13. (cont.) Acres of Vegetative Treatment by Resource Activity in Planning Period 1

IV. Coniferous Forest Suitable Timberland:

Resource Activity	Acres	Rationale
D. Reforestation		
1. Site preparation for natural or artificial regeneration:	21,757	This activity is applied after seed cutting and slash disposal are completed to prepare the forest floor for regeneration by creating an environment favorable for establishing and growing the desired tree species by plainting, seeding, or natural regeneration. Artificial regeneration by planting is done only when natural regeneration is unsuccessful, or in areas where natural regeneration is not expected to occur, e.g. wildfires, blowdown, or stands prescribed for shelterwood harvest that contain no mistletoe-free seed trees.
E. Treatment of natural fuels:	18,176	This activity is applied to maintain existing fuelbreaks and fuel reduction corridors, reduce fuel loading in high hazard/high risk areas, and reduce backlog and natural fuel loading to minimize the potential for high intensity fire.
F. Range forage improvement		
1. Seeding:	20,270	This activity captures the potential of the site to produce forage when the stand is in regeneration or has been thinned. It provides a ground cover to maintain and improve soil properties and provides forage for cattle and wildlife.
G. Wildlife non-structural habitat improvement:	63,560	
1. Burning:	34,850	Burning is used to improve forage for wildlife, alter vegetative composition, and improve hiding and thermal cover.
3. Seeding and planting:	22,900	Seeding is used to improve forage and cover for wildlife and increase habitat capability. Planting is used to improve the forage and cover components of wildlife habitat by re-establishing desirable species.

Table 14. Rights-of-Way to be Acquired in Planning Period 1

Management Area	Right-of-Way Case Name	Road No.	Length in Miles
1	Big Aso	FDR 142	0.2
1	Double A	FDR 7	0.25
1	Santa Fe Wells	FDR 39	1.0
1	Little Aso	FDR 2	0.2
2	Government	FDR 107	0.2
2	Cowboy Tank	FDR 84	0.5
2	Summit Mountain	FDR 195	0.3
2	Bear Springs	FDR 57A	0.3
2	Dent-Seyre	FDR 793	0.5
2	Horse Hill	FDR 25	0.3
3	Ivie	FDR 730	1.2
3	Airport/Pronghorn	FDR 16	1.0
3	Road 87	FDR 87	0.7
8	Trash Dam	FDR 307	0.2
9	Apex	FDR 335	0.5
9	Griffen	FDR 335	1.2
9	Supai Village	FDR 328	1.0
9	Long Jim	FDR 605A	0.15
9	Harbison Bloody	FDR 305B	0.1
11	Houserock South Canyon	FDR 445	11.0
12	Willis Canyon	FDR 248D	11.0
12	West Side	FDR 422	18.0
18	Park Boundary	FDR 268	1.5

Table 15. Dispersed Recreation Investments Scheduled in Planning Period 1 and Decade 2

Management Area	Investments Scheduled in Planning Period 1	Investments Scheduled in Decade 2
2	Spring Valley Fishery	
2	MC Tank Fishery	
2	Junction Tank Fishery	
2	Bixler Saddle Trail	
2	Bixler Saddle Trailhead	
2	Benham Trailhead	
10	Lockett Lake Fishery	
10	Russell Tank Fishery	
11		Royal Arches Vista
15	Big Springs Fishery	
16	Jacob Lake Cross	
16	Country Ski Concession	
18	Northside Rim Trail	Timp Point Vista

Table 16. Developed Recreation Investments for Public and Private Sector Sites

Site Name	Site Capacity in PAOT*	Schedule for Construction or Expansion
Proposed Public Sector Site Construction		
Highway 64 Visitor Center	75	Decade Three
Adams Lake Campground	400	Decade Four
Big Springs Day-Use Area	100	Decade Five
Existing Private Sector Site Expansion		
Moqui Lodge	1,230	Planning Period One or Decade Two
Moqui RV Park	750	Planning Period One or Decade Two
Jacob Lake Inn	500	Planning Period One or Decade Two
Kaibab Lodge	225	Planning Period One or Decade Two
Proposed Private Sector Site Construction		
Grandview Campground	400	Planning Period One
Bill Williams Ski Area	2,000	Planning Period One
DeMotte II Campground	400	Decade Two
Orderville Canyon Campground	400	Decade Three

* Total site capacity after expansion or construction.

Table 17. Summary of Off-Road Vehicle Area Closures

Management Area	Name of Closure	Acres	Reason for Restriction	Restricted Vehicle Type
1	Thumb Flat	40	Sensitive soil/veg.	All except snow
1	Prescott Powerline	1,478	Sensitive soil	All
2	Pomeroy Tanks	137	Unique Geology	All
2	Holloway Flat	38	Sensitive soil/veg.	All except snow
2	Big Pine Flat	171	Sensitive soil/veg.	All except snow
2	Sycamore Trail System	134	Sensitive vegetation	All
2	Sevier Flat	149	Sensitive soil/veg.	All except snow
2	Barney Flat	467	Sensitive soil/veg.	All except snow
2	Coleman Lake	158	Wetland	All
2	Scholz Lake	106	Wetland	All
2	Davenport Lake	198	Wetland	All
2	Kunde Flat	55	Sensitive soil/veg.	All except snow
2	Jackass Flat	108	Sensitive soil/veg.	All except snow
2	Sunflower Flat	256	Wetland	All
2	Little Pine Flat	54	Sensitive soil/veg.	All except snow
2	Cougar Park	108	Sensitive soil/veg.	All except snow
2	Duck Lake	124	Wetland	All
2	Spring Valley	358	Sensitive soil/veg.	All except snow
2	Davenport Hill	503	Sensitive soil	All
2	Mineral Lake	60	Wetland	All
2	Dry Lake	52	Wetland	All
2	Klostermeyer Hill	143	Sensitive soil	All
2	Government Knolls	328	Sensitive soil	All
2	Kramer Hill	191	Sensitive soil/veg.	All
2	Antelope Hill	100	Sensitive soil/veg.	All
2	Williams Junction Lake	40	Sensitive soil/veg.	All
3	Three Mile Lake	23	Wetland	All
3	Holden Lake	29	Wetland	All
3	Moritz Lake	122	Wetland	All
3	Cedar Mountain	772	Sensitive soil	All
3	Pouquette Hill	278	Sensitive soil	All
3	Smoot Lake	57	Wetland	All
4	Kendrick Mountain	6,510	Wilderness	All
5	Garland Prairie RNA	300	Research Natural Area	All
9	Red Butte	1,230	Unique Geology	All
13	Kanab Creek	67,981	Wilderness	All
14	Saddle Mountain	40,615	Wilderness	All
16	Moquitch Canyon	700	Sensitive soil	All except snow
16	Warm Springs Canyon	1,706	Sensitive soil	All except snow
16	Pleasant Valley Park	741	Sensitive soil/veg.	All except snow
16	DeMotte Park	1,190	Sensitive soil/veg.	All except snow
16	Upper Tater Canyon	360	Sensitive soil/veg.	All except snow
17	Upper Tater Canyon	40	Sensitive soil/veg.	All except snow
17	Pleasant Valley Park	400	Sensitive soil/veg.	All except snow
18	Moquitch Canyon	1,018	Sensitive soil	All except snow
	Total	129,628		

Table 18. Summary of Visual Quality Objectives in Acres

Mgmt Area	Visual Feature	Visual Quality Objective (Acres) Partial Retention Foreground	Partial Retention Background	Retention Foreground	Preservation
1	Interstate 40	720			
1	Highway 89	840			
1	FDR 173	160			
1	Antolini Hill		3,949		
1	Sawtooth Peak		2,934		
2	Interstate 40	2,280			
2	FDR 173	1,312			
2	FDR 108	1,408			
2	FDR 109	560			
2	FDR 110	1,208			
2	FDR 141	832			
2	Bill Williams Mountain		7,061		
2	Round Mountain		482		
2	Wounded Ranger Knoll		992		
2	Boxcar Hill		237		
2	Beacon Hill		158		
2	Davenport Hill		273		
2	Pine Hill		360		
2	Horse Hill		374		
2	KA Hill		273		
2	Government Hill		324		
2	Beale Mountain		201		
2	Government Mountain		316		
2	Government Knolls		302		
2	Klostermeyer Hill		503		
2	Newman Hill		611		
2	Sitgreaves Mountain		5,590		
3	Highway 64	360			
3	Highway 180	560			
3	FDR 74	616			
3	FDR 87	840			
3	FDR 124	480			
3	FDR 141	2,776			
3	FDR 144	1,088			
3	FDR 730	744			
3	Three Sisters Mountain		1,014		
3	Cedar Mountain		1,100		
3	Hobble Mountains		1,107		
3	Buck Mountain		360		
3	Red Hill		805		
3	Ebert Mountain		417		
4	Kendrick Mt Wilderness			6,510	
6	Highway 64	688			
6	FDR 307	1,144			
6	Coconino Rim		5,411		
7	Existing Dev Rec Sites	1,556			
8	Proposed Dev Rec Sites	2,228			
9	Highway 64	1,072			
9	Red Butte		395		
10	FDR 301	672			
10	FDR 302	1,184			
10	FDR 310	832			
10	FDR 311	336			
10	FDR 320	800			

Table 18. (cont.) Summary of Visual Quality Objectives in Acres

		Visual Quality Objective (Acres)			
		Partial Retention		Retention	Preservation
Mgmt Area	Visual Feature	Foreground	Background	Foreground	
11	Highway 89A	160			
12	Highway 89A	880			
12	FDR 292B	24			
12	FDR 422	912			
12	FDR 425	384			
12	Grand Canyon Rim	1,200			
13	Kanab Creek Wilderness				63,760
14	Saddle Mt Wilderness				40,600
15	Highway 89A			256	
15	FDR 422	96			
15	FDR 429	240			
15	FDR 462	256			
16	Highway 89A			1,024	
16	Highway 67*			4,091	
16	FDR 205	728			
16	FDR 422	120			
16	FDR 429	288			
16	FDR 461	408			
16	FDR 462	720			
17	FDR 219	368			
17	FDR 610	1,496			
17	FDR 611	448			
17	Grand Canyon Rim	1,920			
18	FDR 206	856			
18	FDR 214	656			
18	FDR 271	656			
18	FDR 271A	256			
18	FDR 292	112			
18	FDR 293	608			
18	FDR 294	560			
18	FDR 422	1,656			
18	FDR 425	1,056			
18	FDR 429	472			
18	FDR 462	1,184			
18	Grand Canyon Rim	800			
	Total	46,816	35,449	5,371	110,870

* Acreage includes open meadows of Pleasant Valley and DeMotte Parks

MANAGEMENT AREA 1: 174,973 ACRES

This management area is situated in the the western portion of the Williams Ranger District. It contains portions of the Partridge Creek, Upper Verde, and Sycamore Canyon watersheds and yields water into the Verde River.

Soils, Climate, Vegetation: The management area is an elevated plain interspersed with isolated cinder cones and steep scarp slopes. Elevations range from 5,500 feet to 6,800 feet; 92 percent of the area has slopes under 40 percent. Drainage systems are ill-defined and flows are ephemeral.

Sixty-five percent of the soils in this management area are moderately deep and have a moderate to high suitability for management actions; 22 percent are shallow and have a low suitability for management actions; five percent are moderately deep and have a low to moderate suitability for management actions; and the remaining eight percent are shallow to moderately deep with slopes greater than 40 percent that preclude most management actions.

The climate in this management area displays two distinct precipitation and drought periods. May and June is normally the dry period; more than 50 percent of the average annual precipitation of 16 inches falls in summer rains.

Woodland vegetation is present in 95 percent of this management area. This biotic community is dominated by pinyon pine, Utah juniper, one-seed juniper, and on the more moist sites, alligator juniper. In the lower elevations, Utah juniper makes up the majority of the vegetation, but in the higher elevations pinyon pine is co-dominant with Utah juniper. This management area also contains some ponderosa pine, five percent, which typically includes varying concentrations of woodland species. In these "fringe pine" areas alligator juniper is most concentrated and reaches its best form.

The understory grasses are dominated by blue grama, but on less impacted rangeland, mutton bluegrass, spike muhly, side-oats grama and junegrass are either dominant or co-dominant with blue grama.

Approximately 36 percent of this management area is in unsatisfactory watershed condition with accelerated erosion and loss of soil productivity; in addition there are poorly constructed and maintained roads, as well as unneeded roads that contribute to erosion and impact water quality.

Wildlife habitat: Mule deer and elk in the northern half of this area tend to be year-long residents while herds to the south move out of the area during the winter. Quality mule deer and elk fall and winter habitat exists in the vicinity of Hearst Mountain and Three Sisters mountain in the northern half of this management area. Forage condition in the mule deer and elk winter range in the southern half of the area has been improved through pinyon-juniper fuelwood cutting. Opportunities exist to improve forage conditions in winter habitat in the pinyon-juniper type through green fuelwood harvest. Small herds of pronghorn antelope occupy open habitats both north and south of Interstate 40. Pine stringer habitats in the rim area are important winter roosting areas for the South Kaibab turkey population. These transitional habitats are also important travel corridors for big game animals.

Places for wildlife to cross Interstate 40 are very limited in this management area. Forest cover adjacent to these road crossings must be managed and maintained to facilitate movement of animals.

Management indicator species are mule deer, elk, turkey, pronghorn antelope, plain titmouse, and hairy woodpecker.

Minerals: This management area has an annual production of over 13,000 tons of Coconino sandstone products. Common variety mineral material pits are scattered throughout the area primarily along major transportation corridors. Inspections are necessary to ensure accountability and compliance with terms and conditions of mineral sale contracts, plans of operation, and to prevent unauthorized use of mining claims. The unit has low potential for locatable and leasable minerals.

Land ownership management: Several major utility corridors are located in this area. This management area is suited for expansion of existing corridors or new corridors due to its low visual sensitivity.

Visual resources: Visual quality objectives for most of this management area allow modification of the characteristic landscape; however there are visually sensitive roadside zones along Interstate 40 and Highway 89 within this area.

Cultural resources: The area is known to have high densities of cultural resource sites; however less than 10 percent of the management area has been inventoried and its properties assessed and evaluated. The highest site density occurs in the northern portion of the area, but little is known of the significance of these and other cultural resource sites in the area. A short stretch of the Beale Wagon Road crosses the northwest portion of the management area.

Recreation: There is little recreation use in the unit; generally it is associated with fall hunting activities. There are 22,400 acres classified as semi-primitive situated in three distinct areas. The primitive character of these areas, generally a function of road density, needs to be maintained. The balance of the unit is classified as roaded and natural appearing.

Range: Permitted grazing use is in balance with grazing capacity. There are 124,999 acres of full capacity rangeland in this management area: 78,564 acres are in satisfactory condition and 46,435 acres are in unsatisfactory condition. This capacity is provided by seral grasslands and open pinyon-juniper stands. The Double A Wild Burro Territory consists of 27,189 acres. The acceptable herd size is 22 animals. An annual census with periodic removals are necessary to maintain the burro population in balance with the capacity of the territory.

This management area has 17,287 acres of pinyon-juniper woodland which were converted to seral grassland. This kind of conversion work has dramatically increased the grazing capacity of this management area; however these seral grasslands are subject to continuous invasion by woody plants and must be periodically treated to maintain their grass cover. This management area also has large acreages of mature dense stands of pinyon-juniper with little browse and forage species present in the understory. Opportunities exist to maintain exisitng grassland in grass cover and to increase forage production and consequently grazing capacity by regeneration cutting in mature pinyon-juniper stands followed by seeding to grass and forb species.

Range structural improvements consist of fences and water developments; their maintenance and periodic replacement is necessary to maintain grazing capacity.

Facilities: Access to this management area is via Interstate 40, Highway 89, and Forest Development Roads (FDR) 6, 124, 142, and 173. Interstate 40, Highway 89, FDR 124, 142, and 173 are surfaced and provide all-weather access. FDR 6 and the local road system provide additional dry-weather access for forest protection, resource treatment, and access to private lands. There are 667 miles of local roads in this area and a local road density of 2.44 miles per square mile.

The main line of the Atchison, Topeka and Santa Fe Railroad crosses the northern section of the area. A branch line runs south from Ash Fork along the western boundary of the Forest and this management area.

Fire Management: The fuel profile in this area is not conducive to large, high intensity fires. The potential for resource damage is very low and most fires are benificial and not damaging. An opportunity exists to significantly reduce protection costs without serious damage to the resources in this area.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 1

Management emphasis: Provide for moderate level of management for range, minerals, fire, and dispersed recreation; moderate level of capital investment for soil and watershed improvement and wildlife habitat improvement; low-moderate level of program management and pinyon-juniper fuelwood management; and no commercial timber harvesting.

Table 19. Land Classification in Management Area 1 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	53
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	53
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	165,417
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	165,417
3. Forested land physically not-suitable	6,165
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	3,338
b. Suitable timberland not-appropriate for timber production	3,338
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	174,920
Total non-forested land	53
Total forested land not-suitable for timber production	174,920
Total timberland suitable for timber production	0
Total National Forest Land	174,973

Table 20. Vegetative Treatment by Resource Activity in Management Area 1 in Planning Period 1

Resource Activity		Acres
Not-suitable forest land		
Pinyon-juniper woodland		
Seed cutting		2,850
Range non-structural improvement (seeding)		2,850
Wildlife non-structural improvement		16,618
Fuelwood (special cutting)	9,540	
Burning	2,500	
Planting and seeding	4,578	
Soil and Watershed improvement (special cutting)		720
Seral grassland		
Wildlife non-structural habitat improvement		700
Range non-structural improvement - retreatment		5,830
Coniferous forest		
Wildlife non-structural improvement		500
Aspen (special cutting)	0	
Brush treatment	500	
Burning	0	
Planting and seeding	0	
Suitable timberland		
Coniferous forest		
Site preparation		0
Precommercial thinning		0
Intermediate harvest		0
Range non-structural improvement (seeding)		0
Seed cutting		0
Final removal cutting		0
Wildlife non-structural improvement		0
Burning	0	
Planting and seeding	0	

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Use traffic counts, trail counts, and visitor registration systems to determine dispersed recreation use (RIM reliability class 4). Use visitor counts and length of stay data to determine use of popular dispersed facilities and areas (RIM reliability class 3). Update Recreation Opportunity Spectrum (ROS) inventory and classifications at 5-year intervals beginning in 1990. Monitor off-road vehicle (ORV) use during scheduled patrols and revise the ORV plan to prevent resource damage and user conflicts. Prepare district recreation operation and maintenance plans annually for dispersed areas. Revise district dispersed recreation opportunity guides as necessary.

Manage the Beale Trail corridor on National Forest System lands and associated historic sites and side trails for potential Congressional designation as a National Historic Trail. These standards also apply to those portions of the trail on the Coconino National Forest. Use of motorized vehicles on any portion of the route not already designated for general vehicle travel is prohibited. Emphasize foot and horse travel recreation activities. Provide adequate off-road vehicle (ORV) signing to advise the public of motorized restrictions. Within two years of Congressional designation as a National Historic Trail, formulate a comprehensive trail management plan to promote the historic and cultural significance of the trail, incorporating the direction outlined in this plan. Recognize the needs of the disabled and those with limited mobility in developing access facilities for the trail. Propose recreational facilities for the trails which are related to significant interpretive and recreational points of interest, on, or adjacent to the trail. Emphasize protection for the historic value of the trail route. Develop one representative visual logo for the entire trail. Revise and expand current publications in cooperation with local sponsors.

Prepare viewshed corridor plans for all sensitivity level 1 travel routes.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab Nationaal Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:
1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the Kaibab National Forest in this planning period.

Inventory the existing visual condition (EVC) and visual absorption capability (VAC) of the landscape in this planning period.

The following areas have a visual quality objective (VQO) of partial retention background:
1. Antolini Hill
2. Sawtooth Peak

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENTS

Protect all cultural resource sites located in project areas through avoidance. Evaluate all sites for National Register eligibility on a priority basis. Priority is based upon preliminary indications of relative significance.

Nominate the Beale Wagon Road to the National Historic Trail System.

A07 FACILITY AND SITE MANAGEMENT

Provide information services at district offices during the recreation season. Prepare and distribute news releases regularly on dispersed and developed recreation opportunities. Prepare and publish brochures for specific dispersed recreation facilities.

A08 USE ADMINISTRATION

Operate and maintain heavily used dispersed areas and facilities to standard service management by providing regular scheduled patrols throughout the recreation season. Provide control measures for areas where the following resource damage occurs: (1) soil compaction, (2) loss of vegetative cover, (3) tree damage and mortality, and (4) deterioration of water quality.

Close the following areas to off-road vehicle traffic:

Table 21. Off-Road Vehicle Area Closures in Management Area 1.

Name	District	Acres	Reason for Restriction	Restricted Vehicle Type
Thumb Flat	Williams	40	Sens. soil/veg.	All except snow
Prescott Powerline	Williams	1,478	Sens. soil	All

Visitor occupancy is restricted to 14 days in any 30-day period.

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Inspect dispersed recreation trails annually. Maintain trails to maintenance level 3 or higher (as defined in FSH 1309.11a 1986-1990).

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species, and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber and fuelwood management.

Survey and evaluate assessment areas during project design and plan projects to achieve the following habitat objectives:

Provide forage cover ratios between 40:60 to 60:40.

Snags:
1. Ponderosa pine: not less than 180 snags, 14 inches and larger DBH and 15 feet in height, per 100 acres over 55 percent of the forested area.
2. Pinyon-juniper: not less than 100 snags, 9 inches and larger DRC and 12 feet in height, per 100 acres over 55 percent of the forested area.

Achieve snag habitat objectives based on the specific needs of the area through the use of the following practices by priority:
1. Protect and retain existing snags.
2. Intensively manage to meet habitat objectives on snag management emphasis areas (forest opening edges, water sources).
3. Promote recruitment by:
   a. Retain live disease-free cavity trees.
   b. Retain culls and damaged trees.
4. Induce mortality
   a. Kill diseased trees.
   b. Kill healthy trees.

Turkey habitat:
1. Leave not less than four turkey roost tree groups per section in turkey winter range.
2. Emphasize turkey winter habitat in areas within 40 chains of pine stringers. (Pine stringers are defined as non-contiguous, linear communities of predominately ponderosa pine ,up to 40 chains in width, that extend into the pinyon-juniper woodland below the typical elevational distribution of ponderosa pine).

3. Provide for a minimum of one cover structure per two acres within 40 chains of water for turkey nesting cover.

Peregrine falcon habitat:
1. Prohibit activities which disturb nesting birds in the vicinity of essential nesting habitat from March 15 to August 15. This period can be extended if the birds remain strongly attached to nest sites after August 15 .

Spotted owl habitat:
1. Maintain 300 acres of contiguous core area habitat in occupied nest territory.
2. Maintain existing old-growth and down-woody material in each core area.

Raptor habitat:
Retain raptor nest tree-groups and a non-activity buffer around raptor nest sites as follows:
1. Goshawk: 8-chain buffer zone around the nest.
2. Cooper's hawk: 7-chain buffer zone around the nest.
3. Sharp-shinned hawk: 6-chain buffer zone around the nest.
4. Others: 3-chain buffer zone around the nest.
5. Protect verified bald eagle winter roost with a 5-chain buffer zone around the roost. Prohibit road development in the roost and buffer zone.

Hiding and thermal cover:
1. Provide for hiding and thermal cover in fawning and calving areas.
2. Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.
3. Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Areas allocated for hiding cover will be not less than 10 chains in width.

Old-growth stands:

Allocate coniferous forest timber stands for old-growth habitats as specified in Table 22 and the following guidelines.

Table 22. Allocation of Coniferous Forest Stands in Management Area 1 for Old-Growth Habitat

Suitable timberland allocated to extended rotations for old-growth habitat:	Acres
1. Seedling and sapling	0
2. Poletimber	0
3. Immature sawtimber	0
4. Mature sawtimber	0
Unsuitable timberland allocated to old-growth habitat:	1,541
Total	1,541

1. Stand size is not less than 100 acres and five chains in width.
2. Stands allocated and selected for old-growth habitats will be well-distributed across the management area.
3. Any stand selected for old-growth habitat will be taken from the best stands in the assessment area. Criteria for defining best stands is developed from current biological literature.
4. Ponderosa pine:
    a. (1) Not less than 1,400 trees, 20 inches DBH or larger, per 100 acres on sites with an index greater than 54.
        (2) Not less than 1,400 trees, 14 inches DBH or larger, per 100 acres on sites with an index less than 54.
    b. Two stories with 60 square feet of basal area in the understory.
    c. Not less than 180 snags, 14 inches DBH and larger and 15 feet in height, per 100 acres.
    d. Not less than two down trees, 12 inches and larger in diameter and 16 feet or more in length, per acre.
5. Provide for the perpetuation of certain, mature or overmature ponderosa pine (yellow pine) stands that do not have either a two-storied vegetative condition or down-woody material. These stands possess late seral characteristics and it is desirable to maintain their open condition.

6. Pinyon-juniper:
    a. Not less than 3,000 trees, 9 inches DRC or larger, per 100 acres.
    b. Not less than 100 snags, 9 inches DRC or larger, per 100 acres.
    c. Not less than two down trees, 9 inches in diameter or larger and 10 feet in length, per acre.

C02 NON-STRUCTURAL HABITAT IMPROVEMENT.

Areas needing additional forage for elk and mule deer are given priority in scheduling fuelwood wildlife habitat improvement. Treatments are usually done in areas removed from disturbance to maximize habitat effectiveness. Provide for at least 40 percent cover. Emphasize cover in travelways, bedding areas, reproductive areas, and areas adjacent to water sources and openings. Manage cover areas to provide at least 60 percent crown cover and be at least 10 chains in width.

Do non-structural wildlife habitat improvement in accordance with Table 20 and the following guidelines using special cutting, burning, seeding, and planting:

Created openings in pinyon-juniper woodland:
1. Opening is not larger than 40 acres.
2. The maximum width of the opening is 10 chains.
3. The maximum sight distance within the opening is 15 chains.
4. The minimum distance between any two openings is 10 chains.
5. Retreat these areas by burning and seeding at 30-year intervals.
6. Exclude livestock from treated areas for not less than two growing seasons.

Visual resource management standards to meet partial retention visual quality objective for Interstate 40, Highway 89 and the Perkinsville Road are:
1. Stand size is 10 to 40 acres in the woodland and 10 to 50 acres in the coniferous forest.
2. Span of stand along the corridor is not to exceed ten chains.
3. Provide for total cleanup of activity slash within one year of treatment.
4. Created opening is not to exceed four acres in the coniferous forest.
5. Maintain existing overstory species composition of stands within corridor.

C03 STRUCTURAL HABITAT IMPROVEMENT

Do structural habitat improvement in accordance with the following guidelines:
1. Install protective fences, watering structures, brush piles, road closure devices, nesting structures, pothole developments, and kill trees to improve snag distribution.
2. Prevent livestock access to 70 percent of the shoreline of the stock tanks that have stable water levels. Fence up to five acres and seed to low height cover species.
3. Provide for one permanent water source per square mile.
4. Install structures to promote recharge of wet meadows and riparian areas.

5. Structural habitat improvement	structures
a. Wetland improvements (waterfowl nesting islands, potholes, fencing)	0
b. Aquatic improvements (earthen tank maintenance or construction, lake improvement)	10
c. Water developments (springs, guzzlers, trick tanks)	10

6. Construct, improve, and, or stabilize lakes to improve lake habitat for desirable fish species.

P11 TREATMENT OF ACTIVITY FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 50 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage Grazing allotments at their current level,C, i.e. an allotment managed at level D continues at D. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan. Revise allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment re-analysis every 20 years. At 12-year intervals, conduct production-utilization surveys.

Riparian vegetation:
1. Maintain not less than three age classes of woody riparian species, with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D03 RANGE NON-STRUCTURAL IMPROVEMENT-RETREATMENTS

Re-treat 5,830 acres of improved forage areas as specified in Table 20 and in accordance with the following standards:
1. The area to be treated is situated on one or more of the following soil mapping units: 162, 254, 289, 507, 513, 514, 520, 543, 588, 590, and 599;
2. Created opening is not larger than 40 acres.
3. Maximum width of any created opening is 10 chains.
4. Maximum sight distance within any created opening is 15 chains.
5. Minimum distance between created openings is 10 chains.
6. Exclude livestock from treated areas for not less than two growing seasons.
7. Visual resource management standards to meet partial retention visual quality objective for Interstate 40, Highway 89 and the Perkinsville Road are:
    a. Stand size is 10 to 40 acres.
    b. Span of stand along corridor is not to exceed ten chains.
    c. Complete cleanup of activity slash within one year of treatment.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing and add new structural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Make inspections on 70 percent of the allotments annually. Manage the Double A Wild Burro Territory to maintain a herd size of 22 burros. Live-capture excess burros and make them available for adoption through the Bureau of Land Management. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES

Complete forest inventory on 174,973 acres and revise on a 10-year cycle.

E01 REGENERATION HARVEST (PINYON-JUNIPER STANDS)

Apply even-aged management using the shelterwood system in accordance with Table 20 and the following guidelines:

1. Stand size: Minimum 10 acres, maximum 100 acres. Typical stand size, 40 acres.
2. Regeneration units are not to exceed 10 chains in width and maximum site distance of 15 chains in length.
3. Seed cut to a minimum of 20 to 50 trees per acre, depending on the amount of advanced regeneration.
4. Final removal cut is made when regeneration is established and certified.
5. Do not make a seed cut in any stand adjacent to a seedling stand, sapling stand, or a stand in regeneration.
6. Stands allocated for fuelwood sales remain a component of the woodland timber base.

E03 SILVICULTURAL EXAMINATION AND PRESCRIPTION

Complete stand delineation, mapping, vegetative and condition class typing, and acreage assignment for all lands in the management area. Maintain EDP stand information system. Apply standards and guidelines on an assessment area basis (approximately 10,000 acres), rather than on an individual timber sale basis, to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

E04 REFORESTATION

Following seed cutting, prepare forest floor for regeneration with broadcast burning or other means prior to the seedfall of the first good conecrop. No planting is done.

E06 TIMBER SALE PREPARATION

Make commercial and personal-use fuelwood, and miscellaneous forest product sales in accordance with Table 20 and the standards and guidelines for C02 Wildlife Non-Structural Habitat Improvement, E01 Regeneration Harvest (Pinyon-juniper stands), and F03 Improvment.

Utilization standards: Fuelwood sizes vary by objectives.

Visual resource management standards to meet partial retention visual quality objective for Interstate 40, Highway 89 and the Perkinsville Road are:

1. Stand size is 10 to 40 acres.
2. Span of stand along corridor is not to exceed ten chains.
3. Complete cleanup of activity slash within one year of treatment.
4. Maintain existing overstory species composition of stands within corridor.

E07 TIMBER HARVEST ADMINISTRATION

Administer commercial and personal use permits for fuelwood and miscellaneous forest products. This includes accountability, financial management, field inspections, and contract interpretation and enforcement. Close local roads until the next entry by signing and physical obstructions such as gates or barriers. Obliterate temporary roads and return them to production. Impose temporary ORV restrictions to insure protection, until fully revegetated.

P11 TREATMENT OF ACTIVITY CREATED FUELS

Activity created fuels are treated so that the maximum size objectives can be met under the burning conditions which yielded the historical, 50 percentile, rate of spread in fuel model 'K' (National Fire Danger Rating System).

Preattack facilities are incorporated into other resource projects.

D03 RANGE NON-STRUCTURAL IMPROVEMENT

Seed stands to forage species that have a forage production rating of moderate or high following seed cutting as specified in Table 20 and E01 Regeneration Harvest (pinyon-juniper stands).

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) in FY 1987. Complete watershed conditions inventories in FY 1990.

F02 PLANNING

Develop watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process in FY 1985.

F03 IMPROVEMENT

Implement land treatment and structural measures as specified in Table 20 and in accordance with the following standards: Land treatment measures include (1) closure and revegetation of 82 acres of system roads identified for obliteration in the transportation inventory; and (2) 720 acres of ground cover improvements in the following soil mapping units: 162, 165, 254, 288, 289, 507, 513, 514, 520, 542, 543, 587, 588, 590, 592, and 599:

1. Created opening is not larger than 40 acres.
2. Maximum width of the opening is 10 chains.
3. Maximum sight distance within the opening is 15 chains.
4. Minimum distance between any two openings is 10 chains.
5. Exclude livestock from treated areas for not less than two growing seasons.
6. Visual resource standards to meet partial retention visual quality objective for Interstate 40, Highway 89 and the Perkinsville Road are:
    a. Stand size is 10 to 40 acres.
    b. Span of stand along corridor is not to exceed ten chains.
    c. Complete cleanup of activity slash within one year of treatment.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined (after problem assessment, examination of alternatives and appropriate review by local and State agencies and public participation) to be the most effective practicable means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatible with water quality goals. These practices are involved in activities affecting the Forest and grassland resource and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Designate stream courses within timber sales to protect watershed values. This protection includes controls on skidding within riparian areas and along or across designated stream courses.
3. Rehabilitate impacted areas to minimize loss of site productivity following activities or wildfire.

F05 RESOURCE INVENTORY REPORTS

Complete TES reports in FY 1987.

F07 RIGHTS/USE MANAGEMENT

Update and maintain the forest water use requirements and rights inventory annually. Obtain water rights before developing new waters.

RESOURCE MANAGEMENT PRACTICE: Minerals Management

Work Activity and Standard and Guideline

J04 WITHDRAWALS, MODIFICATIONS, AND REVOCATIONS

Withdraw the following areas to locatable mineral entry:
1. Cultural resource sites with National Register status.

G03 PROCESSING OF EXPLORATION PROPOSALS

Impose operating constraints on leasable and locatable mineral prospecting and exploration activities in or adjacent to the following wildlife habitat components.

Habitat Component and Area of Restriction	Restriction	Approximate Season of Restriction
Within 20 chains of turkey and raptor nest sites and 40 chains of permanent water sources.	No surface disturbance or occupancy.	April to July

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special-use sites.	Areas of large capital investments. Yearlong, for the effective term of the lease.	No surface disturbing activities.
Soil map units with slopes of 15 percent or greater.	Areas with moderate to high erosion potential. Yearlong, for the effective term of the lease.	Special mitigation measures required for surface disturbing activities.
Within 10 chains of all sites listed on National Register.	Protection of historic values. Yearlong, for the effective term of the lease.	No surface disturbance or occupancy.
Individual colonies of T&E and sensitive plants.	Limited plant populations require protection. Yearlong, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within one mile of T&E raptor nest sites.	Nesting activities highly susceptible to disturbance. March to July, for the effective term of the lease.	No surface disturbance or occupancy.
10 chain wide corridor and open meadows along I-40 and the Perkinsville Road.	Areas visually sensitive to any alteration. Yearlong, for effective term of the lease.	No surface disturbing activities.
Within 20 chains of raptor nest sites and within 40 chains of permanent water sources.	Nesting activities highly susceptible to disturbance. April to July, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of permanent water sources.	Allow unrestricted access to water sources. Yearlong for the effective term of the lease.	No surface disturbing activities or occupancy.

Discontinue common variety mineral material disposals from existing sources, rehabilitate existing material pits, and prevent development of potential sites in:

1. Ten-chain wide corridor along Interstate 40, Highway 89, and the Perkinsville Road.
2. Within 20 chains of turkey and raptor nest sites and permanent water sources.
3. Areas with semi-primitive or semi-primitive motorized ROS classifications.

G05 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral developments based on:

1. Construction, maintenance and hauling costs.
2. Integration with other resource management uses.
3. Monitoring of wildlife impacts and, or mitigation of habitat loss through habitat improvement projects.
4. Impacts on visual quality objectives.
5. Impacts on areas of concentrated recreation use.

F01 SOIL AND WATER RESOURCE INVENTORY

Conduct level 2 soil inventory of mined areas scheduled for restoration.

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

G08 RESERVED AND OUTSTANDING RIGHTS

RESOURCE MANAGEMENT PRACTICE: Land Ownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT (NON-RECREATION)

Allow expansion of existing major utility corridors and clearing of new corridors. Attempt to avoid the follwing areas:

1. Areas with pristine, primitive or semi-primitive ROS classifications.
2. Areas with high cultural resource values.
3. Important wildlife habitat areas.
4. Visually sensitive areas.
5. ORV closure areas.
6. Lands classified as tentatively suitable timberland.

Provide for joint use of corridors and combine uses to the extent possible in light of technical and environmental constraints.

J02 RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS

Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees and termination dates. Adjust fees based on fair market values at five year intervals or when permits or grants are re-issued. Update Land Use Reporting System during annual file reviews.

J05 LAND STATUS MAINTENANCE

Make initial land status entries when special use permits and right-of-way grants are issued or amended and when land conveyance cases are completed.

J04 WITHDRAWALS, MODIFICATIONS AND REVOCATIONS

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

J09 OTHER LAND TITLE CLAIMS MANAGEMENT

J10 ENCROACHMENT

J11 LANDOWNERSHIP PLANNING

J12 LAND ADJUSTMENT PLANNING

J13 LAND EXCHANGE

On lands designated as base-in-exchange:

1. Limit capital investments in range structural or non-structural improvements, recreation improvements, administrative improvements, or timber stand improvements, etc., to those that could be amortized during the anticipated period of continued government ownership.
2. Design cultural practices, such as timber sales, to protect or enhance real estate values by modifying marking prescriptions to retain a component of mature trees, ensuring timely disposal of activity slash and in designing location of permanent roads.

3. Avoid, where possible, the authorization of encumbering special uses that detrimentally effect real estate values and, where possible, locate those that must be accommodated in a manner to minimize impacts to real estate values.

J14 LAND EXCHANGE - CASH EQUALIZATION

J17 LAND SALES, GRANTS AND SELECTIONS

J18 RIGHTS-OF-WAY ACQUISITION

Acquire the following rights-of-way:
1. Big Aso, FDR 142, .5 miles.
2. Double A FDR 7, .25 miles.
3. Santa Fe Wells, FDR 39, 1.0 miles.
4. Little Aso, FDR 2, .2 miles.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Facilities Management

Work Activity and Standard and Guideline

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORY

L02 ARTERIAL ROAD PRECONSTRUCTION

Design arterial roads at traffic service level C or B.

L03 ARTERIAL ROAD CONSTRUCTION ENGINEERING

L05 ARTERIAL ROAD RECONSTRUCTION

L06 COLLECTOR ROAD PRECONSTRUCTION

Design collector roads at traffic service level C or B.

L07 COLLECTOR ROAD CONSTRUCTION ENGINEERING

L09 COLLECTOR ROAD RECONSTRUCTION

L19 ROAD OPERATION

Road maintenance standards are:
1. Maintain commensurate share roads for intended commercial use.
2. Maintain local roads, closed to traffic, at maintenance level 1.
3. Maintain local service roads, open to traffic, at maintenance level 2.
4. Maintain local service roads, to dispersed recreation sites, at maintenance level 3 or higher.
5. Maintain signs to meet safety requirements.
6. Maintain arterial and collector roads at maintenance level 4 or 5.

L28 DAM ADMINISTRATION AND MANAGEMENT

P11 TREATMENT OF ACTIVITY FUELS

RESOURCE MANAGEMENT PRACTICE: Fire Protection

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Minimize fire fighting costs.
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. The maximum average annual burned area is 3,500 acres.
5. The maximum fire size objective is 200 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

The initial response objective is to economically confine all fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed, or are expected to exceed, the size objective are considered escaped and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA will consider at least the following:

1. The resource management emphasis of threatened management areas.
2. Suppression costs commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Confinement of fires to the woodland vegetation.
7. Size objectives based on continuous area of high intensity burn.
8. Impacts on cultural resources.

P12 TREATMENT OF NATURAL FUELS

Reduce fuel loading in high hazard and, or high risk areas.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 2: 233,859 ACRES

This management area contains all of the suitable timberland in the Williams and Chalender Ranger Districts. It includes parts of the Partridge Creek, Upper Verde, Sycamore Canyon and Cataract-Spring Valley watersheds.

Soils, Climate and Vegetation: This management area is an elevated plain interspersed with isolated cinder hills and volcanic mountains. Elevations range from 6,500 feet to 9,388 feet. Drainage systems are generally ill-defined with ephemeral flow.

Sixty-eight percent of the soils in this management area are moderately deep and very well suited for management activities; 29 percent are shallow to very shallow and poorly suited for management activities; and the remaining three percent are steep and inaccessible and not suited for most management activities.

The average annual precipitation is approximately 22 inches. The driest months are May and June and the wettest are July and August. More than one-half of the total precipitation falls in the summer months.

The predominant vegetation in this management area is ponderosa pine with scattered inclusions of aspen and Gambel oak. There are three extensive prairies of seral grass. Douglas-fir and white fir are found at higher elevations. Understory forage species are mutton bluegrass, black dropseed, mountain muhly, junegrass, squirreltail and blue grama. Important species such as cliffrose, ceanothus, and mountain mahogany are found on shallow soils.

In this management area there are approximately 207,000 acres of ponderosa pine; 78 percent is suitable timberland. Five percent of the suitable timberland is in seedlings and saplings, 39 percent is poletimber, 38 percent is immature sawtimber, five percent is mature sawtimber, and 13 percent is sparse timber. Approximately one-third of the suitable timber stands in this management area are infected with dwarf mistletoe; the trend is increasing incidence and severity.

The major timber management problems are dwarf mistletoe, condition class distribution, stand stocking levels, diversity and distribution of timber stands, and natural regeneration of marginal sites.

Wildlife: This management area provides extensive habitat for big game species. Pine stringers occur along one-half of the linear boundary of the area. These stringers are critical roost habitat for turkey. The forested area, broken by Garland, Government and other seral grassland prairies, provides summer habitat for deer, elk, pronghorn antelope, turkey, and northern goshawk. This area provides the majority of the available habitat for Abert squirrel and Pygmy Nuthatch in the Williams-Chalender area. The islands of mixed conifer vegetation situated on Sitgreaves and Bill Williams Mountains provide limited habitat for spotted owls and red squirrels. Bill Williams Mountain is almost exclusively the only black bear habitat in this management area.

The sensitive plant species, Potentilla multifoliata and Cimicifuga arizonica are present in this management area.

There are insufficient roost-tree groups for turkey, nest-tree groups for goshawk, old-growth habitat, and snag habitat. The prairies are being invaded by pine vegetation; grasses are dominant vegetation at the expense of forbs, the forage preferred by pronghorn pronghorn antelope.

JD Dam Lake is a shallow lake which provides fishing opportunities. Vegetative cover is present, but of low quality for nesting waterfowl. In the past, successful osprey nesting has occured and wintering bald eagle utilize the area for foraging. The over abundance of emergent aquatic vegetation has reduced the value of this lake as a fishery. Silt deposition has resulted in a shallow lake, but an opportunity exists for increasing the water depth.

Scholz Lake, Duck Lake, Davenport Lake, and Coleman Lake provide habitat for water birds, shore birds, and osprey. These lakes are important spring migration stops because of predictable snow melt and run-off and are dependable foraging areas for migrating bald eagle. Increased recreational use can reduce the value of these lakes for waterfowl. The fish species present in Scholz Lake are bullhead and green sunfish. Continued existence of Scholz Lake may be in jeopardy because water rights have not been secured.

The management indicator species are Abert squirrel, elk, turkey, mule deer, spotted owl, pygmy nuthatch, hairy woodpecker, goshawk, pronghorn antelope, yellow bellied sapsucker, and cinnamon teal.

Minerals: The unit has low potential for locatable and leasable minerals. Common variety mineral material pits and many potential sites are located throughout the unit.

Land ownership management: Most of the special land uses and linear rights-of-way in the Williams and Chalender Districts are in this management area. There are several rural subdivisions and the City of Williams is located in this area. It also contains three classified electronic sites.

Adjustments in the land ownership pattern in certain areas of the unit can eliminate many access and occupancy trespass problems and result in more efficient managment of National Forest lands. The best opportunities to designate additional base-in-exhange lands are in the Parks and Garland Prairie areas and immediately south of the City of Williams along FDR 173.

Visual resources: The predominant vegetation is ponderosa pine. Numerous interspersed meadows and prairies provide opportunities to preserve and enhance the visual diversity of the area. The corridors along Interstate 40, FDR 173, 110, and 141 are especially sensitive to management actions.

Cultural resources: A substantial portion of this management area has been inventoried for cultural resource sites in conjunction with resource management activities. Cultural resource site densities vary from low to high. Inventoried cultural resource sites have not been evaluated for final disposition. The Beale Wagon Road crosses the northern portion of the unit.

Recreation: Recreation use within this area is moderate to high. Primary recreation activites are dispersed camping, sightseeing, cross-country skiing and hiking. Inspection and maintenance of popular dispersed camping sites, located primarily along FDR 109, 110, and 139, is necessary to preserve the natural setting of these areas and prevent resource damage. There are opportunities for constructing additional dispersed recreation facilities including hiking trails and dispersed water impoundments.

Range: The area is principally summer range for cattle and sheep. Grazing capacity is provided by two large prairies of cool-warm season bunchgrasses, grassy openings, old burns, pine bunchgrasses within open ponderosa pine stands, and by transitory range resulting from timber harvests. Some openings have been revegetated with introduced grasses to increase forage production. This management area has 191,344 acres of full capacity range of which 151,008 acres are in satisfactory condition and 40,336 acres are in unsatisfactory condition.

Permitted grazing use is in balance with estimated grazing capacity. There are opportunities to increase grazing capacity by enhancing forage production by seeding timber stands following intermediate timber harvests.

Range structural improvements consist of fences and water developments. Maintenance and replacement of these improvements is necessary to maintain grazing capacity.

Facilities: All-weather access to this management area is via Interstate 40 and FDR 74, 76, 107, 108, 109, 110, 139, 140, 141, 146, 173, and 354. This road system provides access for forest protection, resource utilization, resource administration and management and access to private land. There are 962 miles of local roads in this management area with a local road density of 2.84 miles per square mile.

The main line of the Atchison, Topeka and Santa Fe Railroad crosses the northern section of the area.

Camp Clover, JD Cabin, and Spring Valley administrative sites and Green Base heliport are located in the area. Camp Clover administrative site is the Williams Ranger District headquarters. The JD Cabin and Spring Valley administrative sites are work centers and crew quarters used during the summer work season. Green Base heliport is a suport facilitiy for fire suppression.

Fire Management: The fuel profile is conducive to occurence of high intensity fires. Protection emphasis is very high in this management area. An opportunity exists to relax protection standards during periods of wet weather and in areas where fuel is not continous. Prompt suppression must be instituted when the threat of high intensity fire exists because the potential of damage to land and resources is very high.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 2

Management emphasis: Provide for moderately-high level of management for dispersed recreation, minerals, landownership, timber, and fire coupled with moderately-high level of investment for wildlife habitat improvement and facilities and low level of investment for soil and water improvement.

Table 23. Land Classification in Management Area 2 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	21,112
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	21,112
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	5,532
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	5,532
3. Forested land physically not-suitable	46,135
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	161,080
b. Suitable timberland not-appropriate for timber production	0
c. Suitable timberland appropriate for timber production	161,080
Total timberland suitable for timber production	161,080
Total forested land	212,747
Total non-forested land	21,112
Total forested land not-suitable for timber production	51,667
Total timberland suitable for timber production	161,080
Total National Forest Land	233,859

Table 24. Vegetative Treatment by Resource Activity in Management Area 2 in Planning Period 1

Resource Activity		Acres
Not-suitable forest land		
Pinyon-juniper woodland		
Seed cutting		281
Range non-structural improvement (seeding)		281
Wildlife non-structural improvement		1,850
Fuelwood (special cutting)	500	
Burning	850	
Planting and seeding	500	
Soil and water improvement (special cutting)		0
Seral grassland		
Wildlife non-structural habitat improvement		1,220
Range non-structural improvement - retreatment		0
Coniferous forest		
Wildlife non-structural improvement		6,410
Aspen (special cutting)	350	
Brush treatment	750	
Burning	2,630	
Planting and seeding	2,680	
Suitable timberland		
Coniferous forest		
Site preparation		1,074
Precommercial thinning		2,660
Intermediate harvest		25,526
Range non-structural improvement (seeding)		19,175
Seed cutting		1,074
Final removal cutting		8,868
Wildlife non-structural improvement		17,388
Burning	13,670	
Planting and seeding	3,718	

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Use traffic counts, trail counts, and visitor registration systems to determine dispersed recreation use (RIM reliability class 4). Use visitor counts and length of stay data to determine use of popular dispersed facilities and areas (RIM reliability class 3). Update ROS inventory and classifications at 5-year intervals beginning in 1990. Monitor ORV use during regular scheduled patrols; revise the ORV plan to prevent resource damage and user conflicts. Prepare district recreation operation and maintenance plans annually for dispersed areas. Revise district dispersed recreation opportunity guides as necessary.

Manage the Beale Trail corridor on National Forest System lands and associated historic sites and side trails for potential Congressional designation as a National Historic Trail. These standards also apply to those portions of the trail on the Coconino National Forest. Use of motorized vehicles on any portion of the route not already designated for general vehicle travel is prohibited. Emphasize foot and horse travel recreation activities. Provide adequate ORV signing to advise the public of motorized restrictions. Within two years of Congressional designation as a National Historic Trail, formulate a comprehensive trail management plan to promote the historic and cultural significance of the trail, incorporating the direction outlined in this plan. Recognize the needs of the disabled and those with limited mobility in developing access facilities for the trail. Propose recreational facilities for the trails which are related to significant interpretive and recreational points of interest, on, or adjacent to the trail. Emphasize protection for the historic value of the trail route. Develop one representative visual logo for the entire trail. Revise and expand current publications in cooperation with local sponsors.

Prepare viewshed corridor plans for all sensitivity level 1 travel routes.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab Nationeal Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:
1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the Kaibab National Forest in planning period 1.

Inventory the existing visual condition (EVC) and visual absorption capability (VAC) of the landscape during planning period 1.

The following areas have a visual quality objective of partial retention background:
1. Bill Williams Mountain
2. Round Mountain
3. Wounded Ranger Knoll
4. Boxcar Hill
5. Beacon Hill
6. Davenport Hill
7. Pine Hill
8. Horse Hill
9. KA Hill
10. Government hill
11. Beale Mountain
12. Government Mountain
13. Government Knolls
14. Klostermeyer Hill
15. Newman Hill
16. Sitgreaves Mountain

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENTS

Protect all cultural resource sites located in project areas through avoidance. Evaluate all sites for National Register eligibility on a priority basis. Priority is based upon preliminary indications of relative significance.

Nominate Beale Wagon Road for registration in the National Historic Trail System.

A06 FACILITY AND SITE CONSTRUCTION

Construct water developments, one single dual toilet, signing, clearing, spot surfacing, road drainage and improvement of immediate access roads at the following locations in planning period 1.

Name	Legal Description
Spring Valley	T23N, R4E, Section 22
MC Tank	T20N, R2E, Section 18
Junction Tank	T21N, R2E, Section 1

Construct the Bixler Saddle trailhead and improve the Benham trailhead in planning period 1. Provide parking lot surfacing, interpretive and information signing and toilet facilities.

A07 FACILITY AND SITE MANAGEMENT

Provide information services at district offices during the recreation season. Prepare and distribute news releases regularly on dispersed and developed recreation opportunities. Prepare and publish Recreation Opportunity Guide (ROG) for specific dispersed recreation facilities including hiking trails, scenic vista points and water developments.

A08 USE ADMINISTRATION

Operate and maintain heavily used areas and facilities to standard service management by providing regular scheduled patrols throughout the recreation season. Provide control measures for areas where the following resource damage occurs: (1) soil compaction, (2) loss of vegetative cover, (3) tree damage and mortality, and (4) deterioration of water quality.

Close the following areas to off-road vehicle traffic:

Table 25. Off-Road Vehicle Area Closures in Management Area 2.

Name	District	Acres	Reason for Restriction	Restricted Vehicle Type
Pomeroy Tanks	Chalender	137	Unique Geology	All
Holloway Flat	Williams	38	Sens. soil/veg.	All except snow
Big Pine Flat	Williams	171	Sens. soil/veg.	All except snow
Sycamore Tr. Sys.	Williams	134	Sens. veg.	All
Sevier Flat	Williams	149	Sens. soil/veg.	All except snow
Barney Flat	Williams	467	Sens. soil/veg.	All except snow
Coleman Lake	Williams	158	wetland	All
Scholz Lake	Chalender	106	wetland	All
Davenport Lake	Chalender	198	wetland	All
Kunde Flat	Williams	55	Sens. soil/veg.	All except snow
Jackass Flat	Williams	108	Sens. soil/veg.	All except snow
Sunflower Flat	Williams	256	wetland	All
Little Pine Flat	Williams	54	Sens. soil/veg.	All except snow
Cougar Park	Williams	108	Sens. soil/veg.	All except snow
Duck Lake	Chalender	124	wetland	All
Spring Valley	Chalender	358	Sens. soil/veg.	All except snow
Davenport Hill	Chalender	503	Sens. soil	All
Mineral Lake	Chalender	60	wetland	All
Dry Lake	Chalender	52	wetland	All
Klostermeyer Hill	Chalender	143	Sens. soil	All
Government Knolls	Chalender	328	Sens. soil	All
Kramer Hill	Chalender	191	Sens. soil/veg.	All
Antelope Hill	Chalender	100	Sens. soil/veg.	All
Williams Jct Lake	Chalender	40	Sens. soil/veg.	All

Visitor occupancy is restricted to 14 days in any 30-day period.

Maintain area camping closures around developed sites.

A11 TRAIL CONSTRUCTION

Construct the following trail in planning period 1:

Name	Trail No.	Miles
Bixler Saddle	99.3	1.7

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Inspect dispersed recreation trails annually. Maintain trails to level 3 or higher (as defined in FSH 1309.11a 1986-1990).

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species, and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

Survey and evaluate assessment areas during project design to achieve the following habitat objectives:

Provide forage cover ratios between 40:60 to 60:40.

Snags:
1. Ponderosa pine: not less than 180 snags, 14 inches and larger DBH and 15 feet in height, per 100 acres over 65 percent of the forested area.
2. Pinyon-juniper: not less than 100 snags, 9 inches and larger DRC and 12 feet in height, per 100 acres over 65 percent of the forested area.

Achieve snag habitat objectives based on the specific needs of the area through the use of the following practices by priority:
1. Protect and retain existing snags.
2. Intensively manage to meet habitat objectives on snag management emphasis areas (forest opening edges, water sources).
3. Promote recruitment by:
   a. Retain live disease-free cavity trees.
   b. Retain culls and damaged trees.
4. Induce mortality
   a. Kill diseased trees.
   b. Kill healthy trees.

Turkey habitat:
1. Provide for not less than four turkey roost tree-groups per section in turkey winter range and not less than two turkey roost tree-groups per section in turkey summer range.
2. Emphasize turkey winter habitat in areas within 40 chains of pine stringers. (Pine stringers are defined as non-contiguous, linear communities of predominately ponderosa pine, up to 40 chains in width, that extend into the pinyon-juniper woodland below the typical elevational distribution of ponderosa pine).
3. Provide for a minimum of one cover structure per two acres within 40 chains of water for turkey nesting cover. Prohibit logging activities from April 15 to July 1 to protect nesting areas.

Peregrine falcon habitat:
1. Prohibit activities which disturb nesting birds in the vicinity of essential nesting habitat from March 15 to August 15. This period can be extended if the birds remain strongly attached to nest sites after August 15 .

Spotted owl habitat:
1. Maintain 300 acres of contiguous core area habitat in occupied nest territory.
2. Maintain existing old-growth and down-woody material in each core area.

Raptor habitat:
Retain raptor nest tree-groups and a non-activity buffer around raptor nest sites as follows:
1. Goshawk: 8-chain buffer zone around the nest.
2. Cooper's hawk: 7-chain buffer zone around the nest.
3. Sharp-shinned hawk: 6-chain buffer zone around the nest.
4. Others: 3-chain buffer zone around the nest.
5. Protect verified bald eagle winter-roosts with a 5-chain buffer zone around the roost. Prohibit road development in the roost and buffer zone.

Hiding and thermal cover:
1. Provide for hiding and thermal cover in fawning and calving areas. Prohibit logging activities from May 15 to July 1.
2. Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.
3. Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Areas allocated for hiding cover will be not less than 10 chains in width.

Old-growth stands:

Allocate coniferous forest timber stands for old-growth habitats as specified in Table 26 and the following guidelines.

Table 26. Allocation of Coniferous Forest Stands in Management Area 2 for Old-Growth Habitat

Suitable timberland allocated to extended rotations for old-growth habitat:	Acres
1. Seedling and sapling	7,818
2. Poletimber	7,818
3. Immature sawtimber	494
4. Mature sawtimber	329
Unsuitable timberland allocated to old-growth habitat:	11,535
Total	27,994

1. Stand size is not less than 100 acres and five chains in width.
2. Stands allocated and selected for old-growth habitats will be well-distributed across the management area.
3. Any stand selected for old-growth habitat will be taken from the best stands in the assessment area. Criteria for defining best stands is developed from current biological literature.
4. Ponderosa pine:
   a. (1) Not less than 1,400 trees, 20 inches DBH or larger, per 100 acres on sites with an index greater than 54.
      (2) Not less than 1,400 trees, 14 inches DBH or larger, per 100 acres on sites with an index less than 54.
   b. Two stories with 60 square feet of basal area in the understory.
   c. Not less than 180 snags, 14 inches DBH and larger and 15 feet in height, per 100 acres.
   d. Not less than two down trees, 12 inches and larger in diameter and 16 feet or more in length, per acre.
5. Provide for the perpetuation of certain, mature or overmature ponderosa pine (yellow pine) stands that do not have either a two-storied vegetative condition or down-woody material. These stands possess late seral characteristics and it is desirable to maintain their open condition.
6. Mixed Conifer:
   a. Not less than 1,600 trees, 20 inches or larger at DBH, per 100 acres.
   b. Two-storied stands with not less than 100 square feet of basal area per acre in the understory.
   c. Not less than 300 snags, 20 inches or larger at DBH and 15 feet in height, per 100 acres.
   d. Not less than four down trees, 12 inches in diameter or larger and 16 feet in length, per 100 acres.

7. Pinyon-juniper:
    a. Not less than 3,000 trees, 9 inches DRC or larger, per 100 acres.
    b. Not less than 100 snags, 9 inches DRC or larger, per 100 acres.
    c. Not less than two down trees, 9 inches in diameter or larger and 10 feet in length, per acre.

C02 NON-STRUCTURAL HABITAT IMPROVEMENT.

Do non-structural wildlife habitat improvements in accordance with Table 24 and the following guidelines using special cutting, burning, seeding, and planting:

Pinyon-juniper woodland:
1. Opening is not larger than 40 acres.
2. The maximum width of the opening is 10 chains.
3. The maximum sight distance within the opening is 15 chains.
4. The minimum distance between any two openings is 10 chains.
5. Retreat these areas by burning and seeding at 30-year intervals.
6. Exclude livestock from treated areas for not less than two seasons.

Aspen:
1. Treat 350 acres of aspen using special cutting.
2. Maximum size of any created opening is four acres.
3. Restrict grazing of improvement areas to not more than one year in any three year period.

Gambel oak:
1. Manage Gambel oak for increased hardmast production, cavities, and deciduous forage volume to promote and enhance wildlife habitat.
2. Retain all standing oak trees eight inches and larger at DBH.
3. Make treatment of oak stands in conjunction with timber sale operations.

Alligator juniper:
1. Manage alligator juniper primarily for maintenance and enhancement of wildlife habitat.
2. In areas where alligator juniper comprises less than 50 percent of the total basal area retain all live alligator juniper trees larger than 12 inches in DBH.
3. In areas where alligator juniper comprises more than 50 percent of the total basal area live trees lertger than 12 inches in DBH may be removed if more than one-fourth of the crown is alive.
4. Retain not less than 40 percent of the alligator juniper trees.

Visual resource management standards to meet partial retention visual quality objective for corridors along Interstate 40, Perkinsville Road, FDR 108, 109, 110 and 141 are:
1. Stand size is 10 to 40 acres in the woodland and 10 to 50 acres in the coniferous forest.
2. Span of stand along the corridor is not to exceed ten chains.
3. Provide for total cleanup of activity slash within one year of treatment.
4. Created opening is not to exceed four acres in the coniferous forest.
5. Maintein existing overstory species composition of stands within corridor.

C03 STRUCTURAL HABITAT IMPROVEMENT

Do structural habitat improvement in accordance with the following guidelines:
1. Install protective fences, watering structures, brush piles, road closure devices, nesting structures, pothole developments, and kill trees to improve snag distribution.

2. | Structural habitat improvement | structures |
|---|---|
| a. Wetland improvements: (waterfowl nesting islands, potholes) | 60 |
| b. Aquatic improvements: (earthen tank construction) | 40 |
| c. Water developments: (springs, guzzlers, trick tanks) | 20 |

3. Prevent livestock access to 70 percent of the shoreline of the stock tanks that have stable water levels. Fence up to five acres and seed to low height cover species.
4. Provide for one permanent water source per square mile.
5. Install structures to recharge wet meadows and riparian areas.
6. Construct, improve, and, or stabilize lakes to improve lake habitat for desirable fish species.

P11 TREATMENT OF ACTIVITY FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 65 percentile rate of spread in fuel model "K" [National Fire Danger Rating System].

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at Level D. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan. Revise allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment re-analysis every 10 years. At 9-year intervals, conduct production-utilization surveys.

Riparian vegetation:
1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing and add new structural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually and inspect allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES

Complete forest inventory on 233,859 acres and revise on a 10-year cycle.

E01 REGENERATION HARVEST [PINYON-JUNIPER STANDS]

Apply even-aged management using the shelterwood system in accordance with Table 24 and the following guidelines:
1. Stand size: Minimum 10 acres, maximum 100 acres. Typical stand size, 40 acres.
2. Regeneration units are not to exceed 10 chains in width and maximum site distance of 15 chains in length.
3. Seed cut to a minimum of 20 to 50 trees per acre, depending on the amount of advanced regeneration.
4. Final removal is done when seedlings are established and certified.
5. Do not make a seed cut in any stand adjacent to a seedling stand, sapling stand, or a stand in regeneration.

6. Stands allocated for fuelwood sales remain a component of the woodland timber base.

E01 REGENERATION HARVEST (CONIFEROUS STANDS)

Apply even-age management in accordance with Table 24 and the following guidelines:

1. Stand size: minimum 10 acres, maximum 60 acres, and typical 30 acres.
2. Regenerate stands that have reached CMAI (culmination of mean annual increment) and have a stand DMR (dwarf mistletoe rating) of 2.1 or greater using the clearcutting method and planting.
3. Regenerate stands that have reached CMAI and have a stand DMR of 2.0 or less using the shelterwood seed cut. Reduce stand density to 30 GSL.
4. Do not make a seed cut in any stand adjacent to a seedling stand, sapling stand, or a stand in regeneration.
5. Make final removal harvests after stands classified "in regeneration" are certified as satisfactorily stocked as specified under E04 Reforestation. Leave no live trees infected with dwarf mistletoe for potential snags.
6. Do not cut any tree larger than 42 inches at DBH.

E02 INTERMEDIATE HARVEST (CONIFEROUS STANDS)

Make intermediate harvests as specified in Table 24, Table 27 and the following guidelines:

Table 27. Acres of Intermediate Harvest in Management Area 2 in Planning Period 1

Growing Stock Level	Seedling-Sapling	Poletimber	Immature Sawtimber	Mature Sawtimber
60	0	12,998	0	6,177
90	0	0	6,351	0
Total Acres	0	12,998	6,351	6,177

1. Stand size: minimum 10 acres, maximum 60 acres, typical 30 acres.
2. Make intermediate harvests to specified growing stock levels (GSL) in stands with a DMR of 2.0 or less.
3. Complete logging activities and slash treatment in one season to control _Ips_ beetle populations.
4. Maximize utilization of all trees cut during intermediate harvests.
5. Do not cut any tree larger than 42 inches at DBH.

E03 SILVICULTURAL EXAMINATION AND PRESCRIPTION

Complete stand delineation, mapping, vegetative and condition class typing, and acreage assignment for all lands in the management area. Maintain EDP stand information system. Apply standards and guidelines on an assessment area basis (approximately 10,000 acres), rather than on an individual timber sale basis, to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirements for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

E04 REFORESTATION

1. Prepare forest floor for regeneration, following seed cutting, with broadcast burning or other means, prior to first good cone-crop.
2. Make stocking surveys four and seven years following site preparation.
3. Make plantation survival surveys one, three, and five years following planting.
4. Satisfactory stocking is 120 to 350 trees per acre depending on, species, site class, and management objectives (Reference: FSM 2470).
5. Protect plantations until seedlings are established and assign no grazing capacity.

E05 TIMBER STAND IMPROVEMENT

Make precommercial thinning in sapling stands as specified in Table 24 and the following guidelines:

1. Complete timber stand improvement evaluation survey within one year following treatment.
2. Limit cutting to July through December in areas where *Ips* bark beetle problems are likely to occur.
3. Complete logging activities and slash treatment in one season to control *Ips* beetle populations.
4. Maximize utilization of all trees cut during intermediate harvests.

E06 TIMBER SALE PREPARATION

Make commercial timber, pulpwood, commercial and personal-use fuelwood, and miscellaneous forest product sales in accordance with Table 24, Table 27, and the standards and guidelines for C02 Wildlife Non-Structural Habitat Improvement, E01 Regeneration Harvest (Pinyon-juniper stands), E01 Regeneratiobn Harvest (Coniferous stands), and E02 Intermediate Harvest (Coniferous stands). Make coniferous residue from commercial sale areas available for personal-use fuelwood.

Utilization standards:

1. Sawtimber: 9-inch d.b.h. + to 6-inch d.i.b. top.
2. Topwood: 6-inch d.i.b. to 4-inch d.i.b.
3. Pulpwood: 5-inch d.b.h. + to 4-inch d.i.b. top.
4. Fuelwood: Sizes vary by objectives.

Visual resource management standards to meet partial retention visual quality objective for Interstate 40, Perkinsville Road, FDR 108, 109, 110 and 141 are:

1. Provide for following condition class distribution within visual management corridors:
    a. Seedling and sapling: 10 to 30 percent
    b. Immature poletimber and sawtimber: 20 to 40 percent
    c. Mature sawtimber: 40 to 60 percent
2. Stand size is 10 to 40 acres in the woodland and 10 to 50 acres in the coniferous forest.
3. Span of stand along corridor is not to exceed ten chains.
4. Total cleanup of activity slash within one year of treatment.
5. Created openings are not larger than four acres in the coniferous forest.
6. Maintain existing overstory species composition of stands within corridor.

E07 TIMBER HARVEST ADMINISTRATION

Administer timber sales, pulpwood sales, permits for forest products, firewood, and miscellaneous forest products sales. This activity includes accountability, financial management, field inspections, and contract interpretation and enforcement. Close local roads until the next entry by signing and physical obstructions such as gates or barriers. Obliterate temporary roads and return to production. Impose ORV restrictions until revegetated.

E08 NURSERY MANAGEMENT

Maintain 10-year supply of seed from each zone for each species.

E09 GENETIC TREE IMPROVEMENT PROGRAM

Implement Forest and Southwestern Region tree improvement plans. Level 4 - ponderosa pine, level 1 - mixed conifer.

P11 TREATMENT OF ACTIVITY CREATED FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 65 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

Preattack facilities are incorporated into other resource projects.

D03 RANGE NON-STRUCTURAL IMPROVEMENT

Seed stands, thinned to GSL of 60 or less and have a forage production rating of moderate or high, to forage species following intermediate cutting as specified in Table 24 and Table 27.

C01 WILDLIFE AND FISH, SURVEY, PLANNING, PRESCRIPTIONS, MONITORING, COOPERATION AND ADMINISTRATIONS

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORIES

L10 LOCAL ROAD PRECONSTRUCTION

L11 LOCAL ROAD CONSTRUCTION ENGINEERING

L14 TIMBER PURCHASER ROAD CONSTRUCTION

L19 ROAD OPERATION AND MAINTENANCE

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) in 1987; complete watershed condition inventories in 1990.

F02 PLANNING

Develop watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process in 1995.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined (after problem assessment, examination of the alternatives and appropriate review by local or State agencies and public participation) to be the most effective practicable means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatible with water quality goals. These practices are involved in activities affecting the Forest and grassland resource and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Stream courses will be designated within timber sales to protect watershed values. This protection will include controls on skidding within riparian areas and along or across designated stream courses.
3. Rehabilitation will be applied when needed to minimize loss of site productivity following activities or wildfire.

F05 RESOURCE INVENTORY REPORTS

Complete TES report in 1987.

Update and maintain the forest water uses requirements and rights inventory annually.

F07 RIGHTS/USE MANAGEMENT

Obtain water rights before developing new waters.

RESOURCE MANAGEMENT PRACTICE: Minerals Management

Work Activity and Standard and Guideline

J04 WITHDRAWALS, MODIFICATIONS, AND REVOCATIONS

Withdraw the following areas to locatable mineral entry:

1. 240 acres of habitat for the threatened plant species, Cimicifuga arizonic.
2. Cultural resource sites with National Register status.

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration for Restriction Yearlong, for the effective term of the lease.	Restriction
Recreation, administrative, and special-use sites.	Areas of large capital investments. Yearlong, for the effective term of lease.	No surface disturbing activities.
Soil map units with slopes of 15 percent or greater.	Areas with moderate to high erosion potential. Yearlong, for the effective term of the lease.	Special mitigation measures required for surface disturbing activities.
Within 10 chains of all sites listed on National Register.	Protection of historic values. Yearlong for the effective term of the lease.	No surface disturbance or occupancy.
C. arizonica habitat on Bill Williams Mountain.	Limited area of suitable habitat highly susceptible to disturbance. Yearlong, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Individual colonies of T&E and sensitive plants.	Limited plant populations require protection. Yearlong, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within one mile of T&E raptor nest sites.	Nesting activities highly susceptible to disturbance. March to July, for the effective term of the lease.	No surface disturbance or occupancy.
Within 20 chains of permanent water sources.	Allow unrestricted access to water sources. Yearlong, for the effective term of the lease.	No surface disturbing activities or occupancy.

G05 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral developments based on:
1. Construction, maintenance and hauling costs.

F01 SOIL AND WATER RESOURCE INVENTORY

Conduct level 2 soil inventory of mined areas scheduled for restoration.

F02 SOIL AND WATER RESOURCE PLANNING

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G03 PROCESSING OF EXPLORATION PROPOSALS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

G08 RESERVED AND OUTSTANDING RIGHTS

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT (NON-RECREATION)

Allow expansion of existing major utility corridors and clearing of new corridors. Attempt to avoid the following areas:

1. Areas with pristine, primitive or semi-primitive ROS classifications.
2. Areas with high cultural resource values.
3. Important wildlife habitat areas.
4. Visually sensitive areas.
5. ORV closure areas.
6. Lands classified as suitable timberland.

Provide for joint use in corridors and combine uses to the extent possible in light of technical and environmental constraints.

Electronic site permittees shall comply with technical standards and development provisions of site management plans. Site authorizations are restricted to those types of electronic installations specified in site management plans. The following standards and guidelines apply to all classified electronic sites:

1. Maximize the number of compatible electronic uses on a minimum site area. If a proposed use can be accomodated on a site, but is incompatible with installations in existing buildings, additional buildings may be authorized. Additional buildings are subject to the same joint-use stipulations that apply to existing structures. The Forest Service reserves the right to issue a prospectus for the construction of any building on-site.
2. Each non-exclusive permit reserves the right of the Forest Service to authorize other uses on the site, building, or antenna structures of the holder provided that such use does not interfere with holder's operations. Permittee improvements so used are entitled to reasonable compensation.
3. The Forest Service determines the combination of joint occupants, location of permittee improvements on site and the compatibility of users. Each proposed use is evaluated based on consideration of its impact on existing uses, potential future uses and demonstrated need.
4. A separate authorization must be issued for each electronic user.
5. Access development, improvement and maintenance shall be borne by a permittee or permittee association and must be authorized by a separate permit.
6. A Federal Communications Commission (FCC) license is required for all non-federal government permittees. Authority for enforcing the terms of an FCC license is vested in the FCC. Applicants are responsible for resolving interference problems with existing users. Within the terms of special-use permits and applicable regulations, the Forest Service reserves the right to determine which special-use permits or proposals must be terminated or denied when interference problems cannot be resolved.
7. Buildings and antennas are subject to painting, design and location requirements imposed by the Forest Service to meet visual quality objectives.
8. Permittees are required to organize and be members of a site users association.

Electronic site special use permits for Bill Williams Mountain are not issued unless additional equipment can be housed in existing facilities.

J02 RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS

Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees, termination dates and adequacy of permit clauses. Adjust fees based on fair market value at five year intervals or when permits or grants are reissued. Update land use reporting system during annual file reviews.

J05 LAND STATUS MAINTENANCE

Make initial land status entries when special use permits and right-of-way grants are issued or amended and when land conveyance cases are completed. Verify land status entries for special use permits and right-of-way grants during annual file reviews.

J04 WITHDRAWALS, MODIFICATIONS AND REVOCATIONS

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

J10 ENCROACHMENT

J11 LANDOWNERSHIP PLANNING

J12 LAND ADJUSTMENT PLANNING

J13 LAND EXCHANGE

On lands designated as base-in-exchange:

1. Limit capital investments in range structural or non-structural improvements, recreation improvements, administrative improvements, or timber stand improvements, etc, to those that can be amortized during the anticipated period of continued government ownership.
2. Design cultural practices, such as timber sales, to protect or enhance real estate values by modifying marking prescriptions to retain a component of mature trees, ensuring timely disposal of activity slash and in designing location of permanent roads.
3. Avoid, where possible, the authorization of encumbering special uses that detrimentally effect real estate values and, where possible, locate those that must be accomodated in a manner to minimize impacts to the value of real estate.

J14 LAND EXCHANGE - CASH EQUALIZATION

J15 LAND ACQUISITION

The sunflower, bull basin and tule tracts are designated for aquisition with L&WCF.

J17 LAND SALES, GRANTS AND SELECTIONS

J18 RIGHTS-OF-WAY ACQUISITION

Aquire the following rights-of-way:

2. Government, FDR 107, .2 miles.
3. Cowboy Tank, FDR 84, .5 miles.
4. Summit Mtn., FDR 195, .3 miles.
5. Bear Spgs., FDR 57A, .3 miles.
6. Dent-Sayre, FDR 793, .5 miles.
7. Horse Hill, FDR 25, .3 miles.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Facilities Management

Work Activity and Standard and Guideline

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORY

L02 ARTERIAL ROAD PRECONSTRUCTION

Design arterial roads at traffic service level B or A.

L03 ARTERIAL ROAD CONSTRUCTION ENGINEERING

L05 ARTERIAL ROAD RECONSTRUCTION

L06 COLLECTOR ROAD PRECONSTRUCTION

Design collector roads at traffic service level B or A.

L07 COLLECTOR ROAD CONSTRUCTION ENGINEERING

L09 COLLECTOR ROAD RECONSTRUCTION

L19 ROAD OPERATION

Road maintenance standards are:
1. Maintain commensurate share roads for intended commercial use.
2. Maintain local roads, closed to traffic, at maintenance level 1.
3. Maintain local service roads, open to traffic, to at least a maintenance level 2.
4. Maintain arterial and collector roads at maintenance level 4 or 5.
5. Maintain signs with routine maintenance and replacement schedule based on inventory and field inspection.
6. Maintain local service roads with more than 50 ADT, and to dispersed recreation sites, at maintenance level 3.
7. Replace surfacing at the rate of five percent per year.
8. Re-establish drainage and subgrade stabilization at the rate of two percent per year.

L24 FA & O CONSTRUCTION/RECONSTRUCTION

L25 FA & O FACILITIES MAINTENANCE

L28 DAM ADMINISTRATION AND MANAGEMENT

L46 POTABLE WATER SYSTEM ADMINISTRATION AND MANAGEMENT

L47 WASTEWATER SYSTEM ADMINISTRATION AND MANAGEMENT

P11 TREATMENT OF ACTIVITY FUELS

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Minimize fire fighting costs on low intensity fires (less than 200 btu/ft/sec). Minimize acreage burned by high intensity fires (200+ btu/ft/sec).
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. The maximum average annual burned area objective is 95 acres.
5. The maximum fire size objective is 20 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

1. Direct attack and control all high intensity fires.
2. Economically contain low intensity fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed, or are expected to exceed, size objective are considered escaped fires and appropriate response is determined by an escaped fire situation analysis (EFSA). The EFSA considers at least the following:
1. Resource management emphasis of threatened management areas.
2. Suppression cost commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Potential resource loss.
7. Elapsed time for vegetative recovery.
8. Impacts on cultural resources.

Preattack facilities are incorporated into other resource projects.

P12 TREATMENT OF NATURAL FUELS

1. Maintain existing fuelbreaks and fuel reduction corridors.
2. Reduce fuel loading in high hazard and, or, high risk areas.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 3: 134,769 ACRES

This management area is located in the northern portions of the Chalender and Williams Ranger Districts. This area contains the major portion of the Cataract-Spring Valley and Cedar-Deadman watersheds.

This area is an elevated plain with interspersed isolated cinder cones. Drainage systems are ill-defined with ephemeral flows. Elevations range from 6,500 feet to 7,000 feet.

Sixty percent of the soils in this management area are moderately deep with moderate to high suitability for management actions; thirty-two percent are shallow or very shallow and low suitability for management actions; and eight percent are steep, inaccessible slopes that preclude management actions.

Soil and water management problems in this area are unsatisfactory watershed condition, accelerated soil erosion, and loss of soil productivity. Approximately 18 percent of the management area is in unsatisfactory watershed condition. In addition there are unneeded system roads as well as poorly constructed and maintained roads that contribute to erosion and impact water quality.

This management area has two distinct precipitation as well as drought periods. Typically the driest months are May and June and the wettest are July and August.

Approximately one-half of this management area is pinyon-juniper woodland. One-seed juniper and pinyon pine are the dominant tree species. The remaining one-half of the area is coniferous woodland composed of ponderosa pine, pinyon pine, alligator juniper, and one-seed juniper. The understory grass component is dominated by blue grama with lesser amounts of mutton bluegrass, Indian ricegrass, spike muhly, junegrass, Needle and Thread, winterfat, and four-wing saltbrush.

Wildlife: This management area is valuable winter habitat for mule deer, elk, and pronghorn antelope, because of the presence of winterfat, four-wing saltbush (browse) and light snow fall. Areas within three-fourths mile of ponderosa pine roost tree-groups provide winter habitat for turkey. Ponderosa pine inclusions support Abert squirrel and pygmy nuthatch yearlong with northern goshawk using the pine stringers mainly during the breeding season. There are few reliable sources of water.

Moritz and Smoot lakes provide breeding habitat for cinnamon teal and are important resting stops for migrating waterfowl and shorebirds. Snow melt and run-off are generally more reliable in this unit, resulting in larger bodies of water.

The management indicator species are mule deer, elk, turkey, plain titmouse, pronghorn antelope, and cinnamon teal.

Minerals: The unit has low potential for locatable and leasable minerals. Common variety mineral material pits located within the unit are maintained primarily for in-service use.

Land ownership management: Several major utility corridors traverse the area. This area is suited for expansion of existing corridors or clearing of new corridors due to its low visual sensitivity.

Visual resources: Visual quality objectives for most of this area allow for modification of the characteristic landscape. Visually sensitive roadside zones occur along Highway 64, Highway 180, and Interstate 40.

Cultural resources: This area has high densities of cultural resource sites; however large portions of the management area have not been surveyed due to the paucity of ground disturbing projects. Portions of the Beale Wagon Road cross the unit. Less than 10 percent of the area has been inventoried for cultural resources. The higher site densities occur in the northern portion, but little is known of their significance .

Recreation: Recreation use within the unit is low and generally associated with fall hunting. The predominant ROS class is roaded and natural appearing. An area of 4,480 acres near Ebert Mountain is classified as semi-primitive motorized.

Range: Open grasslands and the understory vegetation in ponderosa pine and pinyon-juniper stands provide forage for livestock. In this area there are 131,733 acres of full capacity range of which 91,335 acres are in satisfactory condition and 40,398 acres are in unsatisfactory condition. Moritz Lake and Smoot Lake are important sources of water.

Extensive areas of pinyon-juniper vegetation have been treated to increase forage and browse production. These areas are subject to continuous invasion by woody species and must be re-treated to maintain the grass cover. Opportunities exist to increase forage production and grazing capacity by seeding grass species following fuelwood harvests.

Permitted grazing use exceeds the estimated grazing capacity. Permitted grazing use will decrease when brought into balance with grazing capacity. Range structural improvements consist of fences and water developments. Maintenance and replacement of the improvements is necessary to maintain grazing capacity. There is opportunity to increase grazing capacity through structural and non-structural improvements.

Facilities: There is all-weather access via Highway 180 and FDR 144. FDR 87 and the local road system provide additional dry-weather access for forest protection, resource utilization and management, and access to private land. There are 515 miles of local roads in this area with a local road density of 2.45 miles per square mile.

Red Hill Lookout is located in the area and is maintained for fire detection.

Fire Management: The fuel profile is not conducive to large, high intensity fires. The potential for resource damage is very low and most fires are more beneficial than damaging. An opportunity exists to significantly reduce protection costs without serious resource damage and impairment.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 3

Management emphasis: Provide high level of management for dispersed recreation; moderate-high level of wildlife habitat investments; moderate level of management for fire and landownership; low-moderate level of range management; moderate level of investment for facilities and soil and water improvement; and no commercial timber harvesting and fuelwood management.

Table 28. Land Classification in Management Area 3 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	314
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	314
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	70,174
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	70,174
3. Forested land physically not-suitable	45,773
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	18,508
b. Suitable timberland not-appropriate for timber production	18,508
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	134,455
Total non-forested land	314
Total forested land not-suitable for timber production	134,455
Total timberland suitable for timber production	0
Total National Forest Land	134,769

Table 29. Vegetative Treatment by Resource Activity in Management Area 3 in Planning Period 1

Resource Activity		Acres
Not-suitable forest land		
Pinyon-juniper woodland		
Seed cutting		0
Range non-structural improvement (seeding)		0
Wildlife non-structural improvement		13,110
Fuelwood (special cutting)	3,620	
Burning	6,330	
Planting and seeding	3,160	
Soil and watershed improvement (special cutting)		440
Seral grassland		
Wildlife non-structural habitat improvement		0
Range non-structural improvement - retreatment		1,550
Coniferous forest		
Wildlife non-structural improvement		10,550
Aspen (special cutting)	0	
Brush treatment	0	
Burning	9,050	
Planting and seeding	1,500	
Suitable timberland		
Coniferous forest		
Site preparation		0
Precommercial thinning		0
Intermediate harvest		0
Range non-structural improvement (seeding)		0
Seed cutting		0
Final removal cutting		0
Wildlife non-structural improvement		0
Burning	0	
Planting and seeding	0	

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Use traffic counts, trail counts, and visitor registration systems to determine dispersed recreation use (RIM reliability class 4). Use visitor counts and length of stay data to determine use of popular dispersed facilities and areas (RIM reliability class 3). Update ROS inventory and classifications at 5-year intervals beginning in 1990. Monitor ORV use during scheduled patrols and revise the ORV plan to prevent resource damage and user conflicts. Prepare district recreation operation and maintenance plans annually for dispersed areas. Revise district dispersed recreation opportunity guides as necessary.

Manage the Beale Trail corridor on National Forest System lands and associated historic sites and side trails for potential Congressional designation as a National Historic Trail. These standards also apply to those portions of the trail on the Coconino National Forest. Use of motorized vehicles on any portion of the route not already designated for general vehicle travel is prohibited. Emphasize foot and horse travel recreation activities. Provide adequate ORV signing to advise the public of motorized restrictions. Within two years of Congressional designation as a National Historic Trail, formulate a comprehensive trail management plan to promote the historic and cultural significance of the trail, incorporating the direction outlined in this plan. Recognize the needs of the disabled and those with limited mobility in developing access facilities for the trail. Propose recreational facilities for the trails which are related to significant interpretive and recreational points of interest, on, or adjacent to the trail. Emphasize protection for the historic value of the trail route. Develop one representative visual logo for the entire trail. Revise and expand current publications in cooperation with local sponsors.

Prepare viewshed corridor plans for all sensitivity level 1 travel routes.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab Nationaal Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the Kaibab National Forest in planning period 1.

Inventory existing visual condition (EVC) and visual absorption capability (VAC) of the landscape during planning period 1.

The following areas have visual quality objectives of partial retention background:

1. Three Sisters Mountain
2. Cedar Mountain
3. Ebert Mountain
4. Hobble Mountains
5. Buck Mountain
6. Red Hill

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENTS

Protect all cultural resource sites located in project areas through avoidance. Evaluate all sites for National Register eligibility on a priority basis. Priority is based upon preliminary indications of relative significance.

Nominate Beale Wagon Road to the National Historic Trail System.

A07 FACILITY AND SITE MANAGEMENT

Provide information services at district offices during the recreation season. Prepare and distribute news releases regularly on dispersed and developed recreation opportunities. Prepare and publish brochures for specific dispersed recreation facilities.

A08 USE ADMINISTRATION

Operate and maintain heavily used dispersed areas and facilities to standard service management by providing regular scheduled patrols throughout the recreation season. Provide control measures for areas where the following resource damage occurs: (1) Soil compaction, (2) loss of vegetative cover, (3) tree damage and mortality, and (4) deterioration of water quality.

Close the following areas to off-road vehicle traffic:

Table 30. Off-Road Vehicle Area Closures in Management Area 3.

Name	District	Acres	Reason for Restriction	Restricted Vehicle type
Three Mile Lake	Williams	23	Wetland	All
Holden Lake	Williams	29	Wetland	All
Moritz Lake	Chalender	122	Wetland	All
Smoot Lake	Chalender	57	Wetland	All
Cedar Mountain	Chalender	772	Sensitive soil	All
Pouquette Hill	Chalender	278	Sensitive Soil	All

Visitor occupancy is restricted to 14 days in any 30-day period.

Maintain area camping closures around developed sites.

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Inspect dispersed recreation trails annually. Maintain trails to maintenance level 3 or higher (as defined in FSH 1309.11a 1986-1990).

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species, and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

Survey and evaluate assessment areas during project design and plan projects to achieve the following habitat objectives:

Provide forage cover ratios between 40:60 to 60:40.

Snags:
1. Ponderosa pine: not less than 180 snags, 14 inches and larger DBH and 15 feet in height, per 100 acres over 40 percent of the forested area.
2. Pinyon-juniper: not less than 100 snags, 9 inches and larger DRC and 12 feet in height, per 100 acres over 40 percent of the forested area.

Achieve snag habitat objectives based on the specific needs of the area through the use of the following practices by priority:
1. Protect and retain existing snags.
2. Intensively manage to meet habitat objectives on snag management emphasis areas (forest opening edges, water sources).
3. Promote recruitment by:
   a. Retain live disease-free cavity trees.
   b. Retain culls and damaged trees.
4. Induce mortality
   a. Kill diseased trees.

b. Kill healthy trees.

Turkey habitat:

1. Provide for not less than four turkey roost tree-groups per section in turkey winter range and not less than two turkey roost tree-groups per section in turkey summer range.
2. Emphasize turkey winter habitat in areas within 40 chains of pine stringers. (Pine stringers are defined as non-contiguous, linear communities of predominately ponderosa pine, up to 40 chains in width, that extend into the pinyon-juniper woodland below the typical elevational distribution of ponderosa pine).
3. Provide for a minimum of one cover structure per two acres within 40 chains of water for turkey nesting cover.

Spotted owl habitat:

1. Maintain 300 acres of contiguous core area habitat in occupied nest territory.
2. Maintain existing old-growth and down-woody material in each core area.

Raptor habitat:

1. Retain raptor nest tree-groups and a non-activity buffer around raptor nest sites as follows:
    a. Goshawk: 8-chain buffer zone around the nest.
    b. Cooper's hawk: 7-chain buffer zone around the nest.
    c. Sharp-shinned hawk: 6-chain buffer zone around the nest.
    d. Others: 3-chain buffer zone around the nest.
    e. Protect verified bald eagle winter-roosts with a 5-chain buffer zone around the roost. Prohibit road development in the roost and buffer zone.

Hiding and thermal cover:

1. Provide for hiding and thermal cover in fawning and calving areas.
2. Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.
3. Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Areas allocated for hiding cover will be not less than 10 chains in width.

Old-growth stands:

Allocate coniferous forest timber stands for old-growth habitats as specified in Table 31 and the following guidelines.

Table 31. Allocation of Coniferous Forest Stands in Management Area 3 for Old-Growth Habitat

	Acres
Suitable timberland allocated to extended rotations for old-growth habitat:	
1. Seedling and sapling	0
2. Poletimber	0
3. Immature sawtimber	0
4. Mature sawtimber	0
Unsuitable timberland allocated to old-growth habitat:	11,443
Total	11,443

1. Stand size is not less than 100 acres and five chains in width.
2. Stands allocated and selected for old-growth habitats will be well-distributed across the management area.
3. Any stand selected for old-growth habitat will be taken from the best stands in the assessment area. Criteria for defining best stands is developed from current biological literature.
4. Ponderosa pine:
    a. (1) Not less than 1,400 trees, 20 inches DBH or larger, per 100 acres on sites with an index greater than 54.
       (2) Not less than 1,400 trees, 14 inches DBH or larger, per 100 acres on sites with an index less than 54.
    b. Two stories with 60 square feet of basal area in the understory.
    c. Not less than 180 snags, 14 inches DBH and larger and 15 feet in height, per 100 acres.
    d. Not less than two down trees, 12 inches and larger in diameter and 16 feet or more in length, per acre.

5. Provide for the perpetuation of certain, mature or overmature ponderosa pine (yellow pine) stands that do not have either a two-storied vegetative condition or down-woody material. These stands possess late seral characteristics and it is desirable to maintain their open condition.
6. Pinyon-juniper:
    a. Not less than 3,000 trees, 9 inches DRC or larger, per 100 acres.
    b. Not less than 100 snags, 9 inches DRC or larger, per 100 acres.
    c. Not less than two down trees, 9 inches in diameter or larger and 10 feet in length, per acre.

C02 NON-STRUCTURAL HABITAT IMPROVEMENT.

Areas needing additional forage for elk and mule deer are given priority in scheduling fuelwood wildlife habitat improvement. Treatments are usually done in areas removed from disturbance to maximize habitat effectiveness. Provide for at least 40 percent cover. Emphasize cover in travelways, bedding areas, reproductive areas, and areas adjacent to water sources and openings. Manage cover areas to provide at least 60 percent crown cover and be at least 10 chains in width.

Do non-structural wildlife habitat improvement in accordance with Table 29 and the following guidelines using special cutting, burning, seeding, and planting:

Created openings in pinyon-juniper woodland:

1. Opening is not larger than 40 acres.
2. The maximum width of the opening is 10 chains.
3. The maximum sight distance within the opening is 15 chains.
4. The minimum distance between any two openings is 10 chains.
5. Retreat these areas by burning and seeding at 30-year intervals.
6. Exclude livestock from treated areas for not less than two growing seasons.
7. Visual resource standards to meet partial retention visual quality objective for Interstate 40, Highway 64 and Highway 180 are:
    a. Stand size is two to 10 acres.
    b. Span of stand along corridor is not to exceed five chains.
    c. Total cleanup of activity slash within three months of treatment.
8. Visual resource standards to meet partial retention visual quality objective for FDR 74, 87, 124, 141, 144 and 730 are:
    a. Stand size is two to 40 acres.
    b. Span of stand along corridor is not to exceed ten chains.
    c. Total cleanup of activity slash within one year of treatment.

C03 STRUCTURAL HABITAT IMPROVEMENT

Do structural habitat improvement in accordance with the following guidelines:

1. Install protective fences, watering structures, brush piles, road closure devices, nesting structures, pothole developments, and kill trees to improve snag distribution.
2. Prevent livestock access to 70 percent of the shoreline of the stock tanks that have stable water levels. Fence up to five acres and seed to low height cover species.
3. Provide for one permanent water source per square mile.
4. Install structures to promote recharge of wet meadows and riparian areas.

5.

Structural habitat improvement	structures
a. Wetland improvements (waterfowl nesting islands, potholes, fencing)	0
b. Aquatic improvements (earthen tank maintenance or construction, lake improvement)	10
c. Water developments (springs, guzzlers, trick tanks)	10

6. Construct, improve, and, or stabilize lakes to improve lake habitat for desirable fish species.

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at level B. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan.

Revise existing allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment re-analysis every 10 years on allotments where management has not corrected downward trends and changes in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 50 percent of the allotments. Conduct allotment re-analysis every 25 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments as having become a problem. At 15-year intervals, conduct production-utilization surveys.

Riparian vegetation:

1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D03 RANGE NON-STRUCTURAL IMPROVEMENT-RETREATMENTS

Retreat 1,550 acres of improved forage areas in accordance with Table 29 and the following standards:

1. The area to be treated is situated on one or more of the following soil mapping units: 162, 254, 289, 507, 513, 514, 520, 543, 588, 590, and 599.
2. Created opening is not larger than 40 acres.
3. Maximum width of any created opening is 10 chains.
4. Maximum sight distance within any created opening is 15 chains.
5. Minimum distance between created openings is 10 chains.
6. Exclude livestock from treated areas a minimum of two growing seasons.
7. Visual resource standards to meet partial retention visual quality objective for Interstate 40, Highway 64 and Highway 180 are:
    a. Stand size is two to 10 acres.
    b. Span of stand along corridor is not to exceed five chains.
    c. Total cleanup of activity slash within three months of treatment.
8. Visual resource standards to meet partial retention visual quality objective for FDR 74, 87, 124, 141, 144 and 730 are:
    a. Stand size is two to 40 acres.
    b. Span of stand along corridor is not to exceed ten chains.
    c. Total cleanup of activity slash within one year of treatment.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing and add new structural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Inspect 50 percent of the allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES

Complete forest inventory on 134,769 acres and revise on a 10-year cycle.

E03 SILVICULTURAL EXAMINATION AND PRESCRIPTION

Complete stand delineation, mapping, vegetative and condition class typing, and acreage assignment for all lands in the management area. Maintain EDP stand information system. Apply standards and guidelines on an assessment area basis (approximately 10,000 acres), rather than on an individual timber sale basis, to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirements for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

E06 TIMBER SALE PREPARATION

Make commercial and personal-use fuelwood and miscellaneous forest product sales in accordance with Table 29 and the standards and guidelines for C02 Wildlife Non-Structural Habitat Improvement and F03 Improvement.

Utilization standards: Fuelwood sizes vary by objectives.

E07 TIMBER HARVEST ADMINISTRATION

Administer commercial and personal-use permits for fuelwood and miscellaneous forest products. This includes accountability, financial management, field inspections, and contract interpretation and enforcement. Close local roads until the next entry by signing and physical obstructions such as gates or barriers. Obliterate temporary roads and return them to production. Impose temporary ORV restrictions until revegetated.

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) in FY 1987; complete watershed condition inventories in FY 1990.

F02 PLANNING

Develop watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process in FY 1995.

F03 IMPROVEMENT

Implement land improvement measures in accordance with Table 29 and the following standards: Land improvement measures are (1) closure and revegetation of 63 acres of system roads identified for obliteration in the transportation inventory and (2) 440 acres of ground cover improvements in the following soil map units : 162, 165, 254, 288, 289, 507, 513, 514, 520, 542, 543, 587, 588, 590, 592, and 599.

1. Created opening is not larger than 40 acres.
2. Maximum width of the opening is 10 chains.
3. Maximum sight distance within the opening is 15 chains.
4. Minimum distance between any two openings is 10 chains.
5. Visual treatment standards to meet partial retention visual quality objective for Intersate 40, Highway 64, and Highway 180 are:
    a. Stand size is two to 10 acres.
    b. Span of stand along corridor is not to exceed five chains.
    c. Total cleanup of activity slash within three months of treatment.

6. Visual resource management standards to meet partial retention visual quality objective for FDR 74, 87, 124, 141, 144 and 730 are:
   a. Stand size is two to 40 acres.
   b. Span of stand along corridor is not to exceed ten chains.
   c. Total cleanup of activity slash within one year of treatment.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined (after problem assessment, examination of the alternatives and appropriate review by local or State agencies and public participation) to be the most effective practicable means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatible with water quality goals. These practices are involved in activities affecting the Forest and grassland resource and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Stream courses will be designated within timber sales to protect watershed values. This protection will include controls on skidding within riparian areas and along or across designated stream courses.
3. Rehabilitate area to minimize loss of site productivity following activities or wildfire.

F05 RESOURCE INVENTORY REPORTS

Complete TES report in 1987.

Annually update the forest water uses requirements and rights inventory.

F07 RIGHTS/USE MANAGEMENT

Obtain water rights before developing new waters.

P11 TREATMENT OF ACTIVITY FUELS

1. Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 50 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).
2. Complete slash cleanup within three months of treatment along Interstate 40 and Highway 84 and Highway 180.
3. Complete slash cleanup within one year of treatment along FDR 74, 87, 124, 141, 144 and 730.

RESOURCE MANAGEMENT PRACTICE: Minerals Management

Work Activity and Standard and Guideline

J04 WITHDRAWALS, MODIFICATIONS, AND REVOCATIONS

Withdraw the following areas to locatable mineral entry:

1. Visually sensitive areas along Highway 64 (352 acres).
2. Laws Spring National Register site (20 acres).
3. Cultural resource sites with National Register status.
4. The following aquatic habitats:
   a. Smoot Lake T24N, R3E, Section 7 160 acres.

G03 PROCESSING OF EXPLORATION PROPOSALS

Impose operating constraints on leasable and locatable mineral prospecting and exploration activities in or adjacent to the following wildlife habitat components.

Habitat Component and Area of Restriction	Restriction	Approximate Season of Restriction
Within 20 chains of calving and fawning areas.	No surface disturbance or occupancy.	April to June
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	No surface disturbance or occupancy.	April to July

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special-use sites.	Areas of large capital investments. Yearlong, for the effective term of the lease.	No surface disturbing activities.
Soil map units with slopes of 15 percent or greater.	Areas with moderate to high erosion potential. Yearlong, for the effective term of the lease.	Special mitigation measures required for surface disturbing activities.
Within 10 chains of all sites listed on National Register.	Protection of historic values. Yearlong, for the effective term of the lease.	No surface disturbance or occupancy.
Individual colonies of T&E and sensitive plants.	Limited plant populations require protection. Yearlong, for the effective term of the lease.	No casual uses, surface distrubance or occupancy.
Within one mile of T&E raptor nest sites.	Nesting activities highly susceptible to disturbance. March to July, for the effective term of the lease.	No surface disturbance or occupancy.
10 chain wide corridor and open meadows along I-40 and Highways 64 and 180.	Areas visually sensitive to any alteration. Yearlong, for effective term of the lease.	No surface disturbing activities.
Within 10 chains of developed recreation sites.	Areas visually sensitive to any alteration. May to October for the effective term of the lease.	No surface disturbing activities.
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	Nesting activities highly susceptible to disturbance. April to July, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of calving and fawning sites.	Calving and fawning activities highly susceptible to disturbance. April to June, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.

Area of Restriction	Reason and Duration of Restriction	Restriction
Within 20 chains of permanent water sources.	Allow unrestricted access to water sources. Year-long for the effective term of the lease.	No surface disturbing activities or occupancy.

Discontinue common variety mineral material disposals from existing sources, rehabilitate existing material pits, and prevent development of potential sites within:

1. Ten chain wide corridor along Interstate 40, Highway 64, and Highway 180.
2. 20 chains of turkey and raptor nest sites, calving and fawning areas, and permanent water sources.
3. Areas with semi-primitive or semi-primitive motorized ROS classifications.

G05 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral developments based on:

1. Integration with other resource management uses.
2. Avoidance of wildlife habitats including calving and fawning areas, primary acquatic habitats.
3. Impacts on visual quality objectives.
4. Impacts on areas of concentrated recreation use.
5. Avoidance of areas with ROS classifications of semi-primitive and semi-primitive motorized.

F01 SOIL AND WATER RESOURCE INVENTORY

Conduct level 2 soil inventory of mined areas scheduled for restoration.

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

G08 RESERVED AND OUTSTANDING RIGHTS

RESOURCE MANAGEMENT PRACTICE: Land Ownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT (NON-RECREATION)

Allow expansion of existing major utility corridors and clearing of new corridors. Attempt to avoid the follwing areas:

1. Areas with pristine, primitive or semi-primitive ROS classifications.
2. Areas with high cultural resource values.
3. Important wildlife habitat areas.
4. Visually sensitive areas.
5. ORV closure areas.
6. Lands classified as suitable for commercial timber production.

Provide for joint use of corridors and combine uses to the extent possible in light of technical and environmental constraints.

J02 RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS

Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees and termination dates. Adjust fees based on fair market values at five year intervals or when permits or grants are re-issued. Update Land Use Reporting System during annual file reviews.

J05 LAND STATUS MAINTENANCE

Make initial land status entries when special use permits and right-of-way grants are issued or amended and when land conveyance cases are completed.

J04 WITHDRAWALS, MODIFICATIONS AND REVOCATIONS

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

J09 OTHER LAND TITLE CLAIMS MANAGEMENT

J10 ENCROACHMENT

J11 LANDOWNERSHIP PLANNING

J12 LAND ADJUSTMENT PLANNING

J13 LAND EXCHANGE

On lands designated as base-in-exchange:
1. Limit capital investments in range structural or non-structural improvements, recreation improvements, administrative improvements, or timber stand improvements, etc, to those that can be amortized during the anticipated period of continued government ownership.
2. Design cultural practices, such as timber sales, to protect or enhance real estate values by modifying marking prescriptions to retain a component of mature trees, ensuring timely disposal of activity slash and in designing location of permanent roads.
3. Avoid, where possible, the authorization of special uses that detrimentally effect real estate values and, where possible, locate those that must be accomodated in a manner to minimize impacts to real estate values.

J14 LAND EXCHANGE - CASH EQUALIZATION

J17 LAND SALES, GRANTS AND SELECTIONS

J18 RIGHTS-OF-WAY ACQUISITION

Aquire the following rights-of-way:
1. Airport-Pronghorn, FDR 16, 1.0 miles.
2. Ivie, FDR 730, 1.2 miles.
3. Road 87, FDR 87, .7 miles.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Facilities Management

Work Activity and Standard and Guideline

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORY

L02 ARTERIAL ROAD PRECONSTRUCTION

Design arterial roads at traffic service level C or B.

L03 ARTERIAL ROAD CONSTRUCTION ENGINEERING

L05 ARTERIAL ROAD RECONSTRUCTION

L06 COLLECTOR ROAD PRECONSTRUCTION

Design collector roads at traffic service level C or B.

L07 COLLECTOR ROAD CONSTRUCTION ENGINEERING

L09 COLLECTOR ROAD RECONSTRUCTION

L19 ROAD OPERATION

Road maintenance standards are:

1. Maintain commensurate share roads for intended commercial use.
2. Maintain local roads, closed to traffic, at maintenance level 1.
3. Maintain local service roads, open to traffic, at maintenance level 2.
4. Maintain local service roads to dispersed recreation sites at maintenance level 3 or higher.
5. Maintain signs to meet safety requirements.
6. Maintain arterial and collector roads at maintenance level 4 or 5.

L24 FA & O CONSTRUCTION/RECONSTRUCTION

L25 FA & O FACILITIES MAINTENANCE

L28 DAM ADMINISTRATION AND MANAGEMENT

L46 POTABLE WATER SYSTEM ADMINISTRATION AND MANAGEMENT

L47 WASTEWATER SYSTEM ADMINISTRATION AND MANAGEMENT

P11 TREATMENT OF ACTIVITY FUELS

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Minimize fire fighting costs.
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. The maximum average annual burned area is 2,700 acres.
5. The maximum fire size objective is 200 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

The initial response objective is to economically confine all fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed the size objective are considered escaped and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA will consider at least the following:

1. The resource management emphasis of threatened management areas.
2. Suppression costs commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Confinement of fires to the woodland vegetation.
7. Size objectives based on continuous area of high intensity burn.
8. Impacts on cultural resources.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 4: KENDRICK MOUNTAIN WILDERNESS AREA; 6,510 ACRES

This management area is the Kendrick Mountain Wilderness Area located in the Chalender Ranger District. This management area is situated within the Cataract-Spring Valley and Cedar-Deadman watersheds. This management area is a steep volcanic mountain. Elevations range from 7,000 feet to over 10,000.

Climate and Vegetation: Aspect is a major influence on the microclimates in this management area. Average precipitation ranges from 24 inches to 28 inches per year. South slopes are warm and dry; north slopes are cool and moist. Vegetation is diverse due to the effect of aspect. North slopes are dominated by mixed conifer species including Douglas-fir, white fir, ponderosa pine, and southwestern white pine. The south slopes are essentially ponderosa pine with a substantial component of alligator juniper. Relatively pure aspen stands as well as aspen with regenerating conifer species are found scattered throughout the mixed conifer zone.

Wildlife: This area is one of few "islands" of mixed conifer vegetation in the Williams-Chalender unit. Suitable habitat may be present for the sensitive species Cimicifuga arizonica in this management area. It is important habitat for red squirrel and spotted owl.

The management indicator species are spotted owl, elk, yellow-bellied sapsucker, red squirrel, goshawk, and pygmy nuthatch.

Minerals: The Arizona Wilderness Act of 1984 withdrew the area to entry under the mining and mineral leasing laws and there are no mining claims of record or mineral leases within the area.

Land ownership management: The Bull Basin tract of private land, (160 acres) near the northern boundary of the wilderness area is identified for acquisition under L&WCF authorities.

Visual resources: The visual quality objective of preservation for Kendrick allows for ecological changes only. Management activities, except for low visual impact recreation facilities, are prohibited.

Cultural resources: A small cabin exists on the summit of Kendrick Mountain. Its eligibility for nomination to the National Register is not known.

Given the high elevation of the unit, cultural resource site density is expected to be low, although no survey has been conducted.

Recreation: Kendrick Mountain is used primarily for hiking, hunting and other day-use activities. Use is concentrated in the lower elevations along the trail system in the semi-primitive WOS class. Increased use of this area is expected because of its proximity to Flagstaff and several major highways.

Range: This area provides summer range for cattle. Most of the area is classed potential and no capacity range because of dense tree stands, steep slopes and inaccessibility, but there is a small amount of capacity. There are 119 acres of full capacity range of which all are in satisfactory condition. Permitted numbers are within the estimated grazing capacity. Range improvements consist of a short fence within the area.

Facilities: Kendrick Mountain lookout is maintained in the area for fire detection; all maintenance is performed by primitive means.

Fire Management: Past suppression practices have caused an unnatural fuel complex to develop which is not conducive for allowing natural fire to burn freely. The opportunity exists to utilize prescribed fire to return the fuel complex to a more natural mosaic and in the long term return natural fire to the area.

A fire lookout tower, which predates wilderness designation, is located on the top of Kendrick Mountain. This lookout is paramount to the detection of wildfires in the southern units of the Kaibab and northern part of the Coconino National Forests. The tower is currently manned, supplied, and maintained by primitive means.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 4

Management emphasis: Provide for standard level of wilderness management and moderate level of range management.

Table 32. Land Classification in Management Area 4 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	0
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	0
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	6,510
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	6,510
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	0
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	0
3. Forested land physically not-suitable	0
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	0
b. Suitable timberland not-appropriate for timber production	0
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	6,510
Total non-forested land	0
Total forested land not-suitable for timber production	6,510
Total timberland suitable for timber production	0
Total National Forest Land	6,510

RESOURCE MANAGEMENT PRACTICE: Wilderness Management

Work Activity and Standard and Guideline

B02 WILDERNESS INVENTORY

Monitor traffic counters and voluntary registration systems at trailheads and adjust use estimates with visitor count data gathered during wilderness patrols (RIM reliabilty class 4). Implement "Limits of Acceptable Change" concept by selecting indicators for areas within each Wilderness Opportunity Spectrum (WOS) classification. Monitor indicators to determine impacts of use.

B03 WILDERNESS USE ADMINISTRATION

Inspect and administer areas within the Transition and Semi-Primitive WOS classifications by regular scheduled patrols throughout the recreation season. Increase frequency of patrols along wilderness boundaries and in the Transition WOS areas during hunting season. Patrol wilderness boundaries and trailheads. Post signs and construct fencing where necessary to restrict vehicle access. Limit party sizes to a maximum of 25 persons. Manage campsites at standard service management. Prevent deterioration of campsites in condition classes 1-3. Discourage use of campsites that fall below condition class 3. Dismantle improvised camp structures encountered during patrols.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab Nationaal Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations. District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be effected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the Kaibab National Forest in planning period 1.

Kendrick Mountain has an assigned visual quality objective of preservation background.

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENTS

Evaluate cabin on Kendrick Mountain to determine eligibility for the National Register. Allow cabin to deteriorate if ineligible.

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Maintain trails to maintenance level 1. Heavily used trail segments may be maintained to maintenance level 2.

L25 FA&O FACILITY MAINTENANCE

Maintain Kendrick Mountain lookout tower to present state. Prevent expansion of lookout tower and electronic facilities. Service and maintain facilities by primitive means.

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area.

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at level C. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan. Revise allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment analysis every 10 years on allotments where management has not corrected downward trends and changes in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 70 percent of the allotments. Conduct allotment analysis every 20 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments as having become a problem. At 12-year intervals, conduct production-utilization surveys.

Riparian vegetation:
1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing structural improvements needed to maintain grazing use at the existing (prescribed) level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Make inspections on 70 percent of the allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

P34 FOREST PEST MANAGEMENT - SURVEYS AND TECHNICAL ASSISITANCE

Make annual ground and, or aerial survey to identify and evaluate the forest pest situation in this area.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Permit lightning fires to play, as nearly as possible, their ecological role. Minimize the suppression impacts and acreage burned by person-caused fires.
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. Allow fire to exceed wilderness boundary only if the objectives of the threatened management area can be met.
5. Maximum size objective for lightning fires is 150 acres.
6. Maximum size objective for person-caused fires is 20 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

1. Mechanized equipment, except line building equipment, can be used if approved by the Forest Supervisor and if it is necessary to meet fire suppression objectives.
2. Monitor all lightning fires and confine when necessary to meet size objective.
3. Economically control all person-caused fires within the size objective.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed the size objective are considered escaped and appropriate response is determined by an escaped fire situation analysis (EFSA). The EFSA will consider at least the following:

1. Ignition source of the fire (lightning or person-caused).
2. If lightning caused, the appropriateness of the predicted burn with respect to the objectives of fire management in wilderness.
3. Resource management emphasis and protection objectives of threatened management area.
4. Suppression costs commensurate with resources protected.
5. Effects on air quality, aesthetics, soil, and watershed;
6. Social acceptance of acreage burned.
7. Current availability of suppression resources.
8. Safety of personnel.

P12 TREATMENT OF NATURAL FUELS

Use prescribed fire to break up unnaturally large areas of continuous fuel and create a more natural "mosaic" of fuelbeds. Target stand size is 50 to 150 acres.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 5: GARLAND PRAIRIE RESEARCH NATURAL AREA; 300 ACRES

This management area is the Garland Prairie Research Natural Area located in the Chalender Ranger District. Soils in this management area are moderately deep, fine textured, and strongly developed. This area is typical of the high elevation grassland ecotone dominated by Arizona fescue and mountain muhly.

RANGE: The area has been full capacity range. Historically this area was grazed by sheep, but in recent years the area has been grazed by cattle in the summer. There are no range improvements. Boundary fences are needed to prevent the entry of livestock. No grazing capacity is assigned.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 5

Management emphasis: Management direction for this area is to establish, maintain, and protect this area as a member of the System of Research Natural Areas.

Table 33. Land Classification in Management Area 5 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	0
3. Classified wilderness	0
4. Research natural area	300
Total non-forested land	300
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	0
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	0
3. Forested land physically not-suitable	0
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	0
b. Suitable timberland not-appropriate for timber production	0
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	0
Total non-forested land	300
Total forested land not-suitable for timber production	0
Total timberland suitable for timber production	0
Total National Forest Land	300

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab Nationaal Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:
1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

A08 USE ADMINISTRATION

Close this area to ORV use.

RESOURCE MANAGEMENT PRACTICE: Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area.

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Complete establishment report for this research natural area in this planning period.

D05 RANGE STRUCTURAL IMPROVEMENT

Construct standard fence around the area with crossing stiles on two sides, but without gates.

D06 RANGE STRUCTURAL IMPROVEMENTS - MAINTENANCE

Maintain boundary fence annually.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES

Complete inventory on 300 acres and revise on a 10-year cycle.

RESOURCE MANAGEMENT PRACTICE: Minerals Management

Work Activity and Standard and Guideline

J04 WITHDRAWALS, MODIFICATIONS AND REVOCATIONS

Withdraw this area (300 acres) to entry under the mining laws.

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Garland Prairie Research Natural Area.	Area used as control to monitor effects of activities on vegetation. Yearlong, for the effective term of the lease.	No surface occupancy.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J05 LAND STATUS

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Permit lightning fires to play, as nearly as possible, their ecological role. Minimize the suppression impacts and acreage burned by person-caused fires.
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. Allow fires to exceed area boundary only if the objectives of the threatened management area can be met.
5. Allow lightning fires to burn naturally within the area.
6. Maximum size objective for person-caused fires is one acre.

P08 INITIAL ATTACK FIRE SUPPRESSION

1. Do not construct fire line or apply chemical retardent in the area.
2. Monitor lightning fires within the area and initiate appropriate response to meet objectives of threatened analysis areas.
3. Direct attack and control all person-caused fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed the size objective are considered escaped and appropriate response is determined by an escaped fire situation analysis(ESFSA). The EFSA considers at least the following:
1. Ignition source of the fire (lightning or person-caused).
2. If lightning caused, consider the appropriateness of the predicted burn with respect to the objectives of fire management in natural area.
3. Resource management emphasis and protection objectives of threatened management area.
4. Suppression costs commensurate with resources protected.
5. Effects on air quality, aesthetics, soil, and watershed.
6. Current availability of suppression resources.
7. Minimize suppression impacts.
8. Time interval since the area was last burned.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORTy

MANAGEMENT AREA 6: 51,120 ACRES

This management area is situated in the northeastern part of the Tusayan Ranger District. It is an elevated plain dissected with numerous drainage systems and isolated scarp slopes. Elevations range from 6,200 feet to 6,700 feet in elevation. Drainage systems are well-defined and flows are ephemeral.

Sixty-four percent of the soils in this management areas are moderately deep and suitable for management actions; twenty-seven percent are typically shallow or very shallow and poorly suited for management actions; and nine percent are shallow to moderately deep and are suitable for management actions.

Soil and water management problems in this area include unsatisfactory watershed condition, accelerated soil erosion, and loss of soil productivity. Approximately 53 percent of the area is in unsatisfactory watershed condition. Unneeded system roads as well as poorly constructed and maintained roads contribute to soil erosion and impact water quality.

Climate of this management area is characterized by relatively dry spring and fall seasons. The average annual precipitation is 16 inches. Normally the driest months are May and June.

Eighty-seven percent of the management area is woodland vegetation. The tree component is dominated by pinyon pine and Utah juniper. Big sagebrush is a substantial component in this management area. Graminoid species in the area include mutton bluegrass, squirreltail, junegrass, Indian ricegrass, and blue grama. On degraded sites, blue grama is the only forage species found. Winterfat, fourwing saltbush, and needle and thread are dominant or co-dominant with blue grama and Indian ricegrass on calcareous soils.

Wildlife: This area is winter habitat for mule deer and is used to some extent by wintering elk. Competition for forage in the area by big game and livestock has resulted in degradation of the browse component. The number and distribution of water sources is inadequate. Coconino Rim provides the only extensive bear habitat in the Tusayan District. Opportunities exist to improve winter habitat by retreating invading sagebrush in areas that have been seral grassland.

The management indicator species are mule deer, elk, antelope, turkey, hairy woodpecker, and plain titmouse.

Minerals: The management area has moderate to high potential for uranium. Prospecting and exploration activities are at a high level throughout the area. It has low potential for oil and gas.

Existing and potential mineral material sources for road surfacing and construction projects are scarce.

Visual resources: Visual quality objectives for most of the area allow for modification of the characteristic landscape. The Coconino Rim escarpment and the corridor along Highway 64 are visually sensitive. Resource management activities within this corridor are visually subordinate to the characteristic landscape.

Cultural resources: Cultural resource site densities are generally high; however large portions of the unit have not been inventoried. Most inventories have been conducted in conjunction with uranium prospecting and exloration activities which are site specific and very limited in area. Little is known about the distribution and significance of cultural resource sites in the management area.

Recreation: Recreation use within the unit is low and use is generally associated with big game hunting and gathering of forest products. The predominate ROS class is semi-primitive motorized. The Coconino Rim escarpment is classified as semi-primitive.

Range: Open seral grasslands are scattered throughout the area and are important forage areas for livestock. Non-structural (forage) improvement areas are being invaded by woody vegetation. Untreated stands are subject to accelerated erosion. These areas are needed in a browse-grassland type to sustain grazing capacity. Opportunities exist for overstory modification to improve forage production and watershed conditions. Fuelwood harvesting followed by seeding of browse, forbs and grasses provides forage, and improves watershed condition and wildlife habitat. Permitted grazing use is not in balance with grazing capacity. Actual livestock use has been variable and significantly less than permitted. Reliable water sources are inadequate. Proper distribution of livestock is difficult to obtain due to the lack of water. There are 12,865 acres of full capacity range, of which 4,675 acres are in satisfactory condition, and 8,190 acres are in unsatisfactory condition.

Range structural improvements consist of fences and water developments. Maintenance and replacement of improvements is necessary in order to maintain grazing capacity.

Facilities: Access to this management area is via Highway 64 and FDR 307. System roads are native surfaced and provide dry-weather access for forest protection, resource utilization and management, and access to private land. There are 135 miles of local roads in the area with a local road density of 1.69 miles per square mile.

Fire Management: The fuel profile is not conducive to large, high intensity fires. The potential for resource damage is very low and most fires are more beneficial than damaging. Opportunities exist to significantly reduce protection costs without serious damage to the resources.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 6

Management emphasis: Provide high level of management for dispersed recreation; moderate level of management of fire management; low-moderate level of range management; moderate level of investment for facilities and soil and water improvement; and no commercial timber harvesting, fuelwood management, and wildlife habitat improvement.

Table 34. Land Classification in Management Area 6 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	0
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	0
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	43,716
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	43,716
3. Forested land physically not-suitable	5,799
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	1,605
b. Suitable timberland not-appropriate for timber production	1,605
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	51,120
Total non-forested land	0
Total forested land not-suitable for timber production	51,120
Total timberland suitable for timber production	0
Total National Forest Land	51,120

Table 35. Vegetative Treatment by Resource Activity in Management Area 6 in Planning Period 1

Resource Activity		Acres
Not-suitable forest land		
Pinyon-juniper woodland		
Seed cutting		0
Range non-structural improvement (seeding)		0
Wildlife non-structural improvement		0
Fuelwood (special cutting)	0	
Burning	0	
Planting and seeding	0	
Soil and watershed improvement (special cutting)		670
Seral grassland		
Wildlife non-structural habitat improvement		0
Range non-structural improvement - retreatment		1,050
Coniferous forest		
Wildlife non-structural improvement		0
Aspen (special cutting)	0	
Brush treatment	0	
Burning	0	
Planting and seeding	0	
Suitable timberland		
Coniferous forest		
Site preparation		0
Precommercial thinning		0
Intermediate harvest		0
Range non-structural improvement (seeding)		0
Seed cutting		0
Final removal cutting		0
Wildlife non-structural improvement		0
Burning	0	
Planting and seeding	0	

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Use traffic counts, trail counts, and visitor registration systems to determine dispersed recreation use (RIM reliability class 4). Use visitor counts and length of stay data to determine use of popular dispersed facilities and areas (RIM reliability class 3). Update ROS inventory and classifications at 5-year intervals beginning in 1990. Monitor ORV use during scheduled patrols and revise the ORV plan to prevent resource damage and user conflicts. Prepare district recreation operation and maintenance plans annually for dispersed areas. Revise district dispersed recreation opportunity guides as necessary.

Prepare viewshed corridor plans for all sensitivity level 1 travel routes.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be

updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab Nationaal Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be

those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the Kaibab National Forest in planning period 1.

Inventory the existing visual condition (EVC) and visual absorption capability (VAC)) of the landscape during planning period 1.

The Coconino Rim escarpment has an assigned visual quality objective of partial retention background.

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENTS

Protect all cultural resource sites located in project areas through avoidance. Evaluate all sites for national register eligibility on a priority basis. Priority is based upon preliminary indications of relative significance.

A07 FACILITY AND SITE MANAGEMENT

Provide information services at district offices during the recreation season. Prepare and distribute news releases regularly on dispersed and developed recreation opportunities. Prepare and publish brochures for specific dispersed recreation facilities.

A08 USE ADMINISTRATION

Operate and maintain heavily used dispersed areas and facilities to standard service management by providing regular scheduled patrols throughout the recreation season. Provide control measures for areas where the following resource damage occurs: (1) Soil compaction, (2) loss of vegetative cover, (3) tree damage and mortality, and (4) deterioration of water quality.

Visitor occupancy is restricted to 14 days in any 30-day period.

Maintain area camping closures around developed sites.

RESOURCE MANAGEMENT PRACTICE: Wildlife Habitat Improvement

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species, and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

Survey and evaluate assessment areas during project design and plan projects to achieve the following habitat objectives:

Provide forage cover ratios between 40:60 to 60:40.

Snags:
1. Ponderosa pine: not less than 180 snags, 14 inches and larger DBH and 15 feet in height, per 100 acres over 40 percent of the forested area.
2. Pinyon-juniper: not less than 100 snags, 9 inches and larger DRC and 12 feet in height, per 100 acres over 40 percent of the forested area.

Achieve snag habitat objectives based on the specific needs of the area through the use of the following practices by priority:
1. Protect and retain existing snags.
2. Intensively manage to meet habitat objectives on snag management emphasis areas (forest opening edges, water sources).
3. Promote recruitment by:
    a. Retain live disease free cavity trees.
    b. Retain culls and damaged trees.
4. Induce mortality
    a. Kill diseased trees.
    b. Kill healthy trees.

Turkey habitat:
1. Provide for not less than four turkey roost tree-groups per section in turkey winter range and not less than two turkey roost tree-groups per section in turkey summer range.
2. Emphasize turkey winter habitat in areas within one-half mile of pine stringers. (Pine stringers are defined as non-contiguous, linear communities of predominately ponderosa pine, up to 40 chains in width, that extend into the pinyon-juniper woodland below the typical elevational distribution of ponderosa pine).
3. Provide for a minimum of one cover structure per two acres within 40 chains of water for turkey nesting cover.

Peregrine falcon habitat:
1. Prohibit activities which disturb nesting birds in the vicinity of essential nesting habitat from March 15 to August 15. This period can be extended if the birds remain strongly attached to nest sites after August 15 .

Spotted owl habitat:
1. Maintain 300 acres of contiguous core area habitat in occupied nest territory.
2. Maintain existing old-growth and down-woody material in each core area.

Raptor habitat:
Retain raptor nest tree-groups and a non-activity buffer around raptor nest sites as follows:
1. Goshawk: 8-chain buffer zone around the nest.
2. Cooper's hawk: 7-chain buffer zone around the nest.
3. Sharp-shinned hawk: 6-chain buffer zone around the nest.
4. Others: 3-chain buffer zone around the nest.
5. Protect verified bald eagle winter-roosts with a 5-chain buffer zone around the roost. Prohibit road development in the roost and buffer zone.

Hiding and thermal cover:
1. Provide for hiding and thermal cover in fawning and calving areas.
2. Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.
3. Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Areas allocated for hiding cover will be not less than 10 chains in width.

Old-growth stands:

Allocate coniferous forest timber stands for old-growth habitats as specified in Table 36 and the following guidelines.

Table 36. Allocation of Coniferous Forest Stands in Management Area 6 for Old-Growth Habitat

Suitable timberland allocated to extended rotations for old-growth habitat:	Acres
1. Seedling and sapling	0
2. Poletimber	0
3. Immature sawtimber	0
4. Mature sawtimber	0
Unsuitable timberland allocated to old-growth habitat:	1,449
Total	1,449.

1. Stand size is not less than 100 acres and five chains in width.
2. Stands allocated and selected for old-growth habitats will be well-distributed across the management area.
3. Any stand selected for old-growth habitat will be taken from the best stands in the assessment area. Criteria for defining best stands is developed from current biological literature.
4. Ponderosa pine:
   a. (1) Not less than 1,400 trees, 20 inches DBH or larger, per 100 acres on sites with an index greater than 54.
      (2) Not less than 1,400 trees, 14 inches DBH or larger, per 100 acres on sites with an index less than 54.
   b. Two stories with 60 square feet of basal area in the understory.
   c. Not less than 180 snags, 14 inches DBH and larger and 15 feet in height, per 100 acres.
   d. Not less than two down trees, 12 inches and larger in diameter and 16 feet or more in length, per acre.
5. Provide for the perpetuation of certain, mature or overmature ponderosa pine (yellow pine) stands that do not have either a two-storied vegetative condition or down-woody material. These stands possess late seral characteristics and it is desirable to maintain their open condition.
6. Pinyon-juniper:
   a. Not less than 3,000 trees, 9 inches DRC or larger, per 100 acres.
   b. Not less than 100 snags, 9 inches DRC or larger, per 100 acres.
   c. Not less than two down trees, 9 inches in diameter or larger and 10 feet in length, per acre.

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at level B. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan.

D02 RANGE RESOURCE INVENTORY

Conduct allotment re-analysis every 10 years on allotments where management has not corrected downward trends and changes in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 50 percent of the allotments. Conduct allotment re-analysis every 25 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments as having become a problem. At 15-year intervals, conduct production-utilization surveys.

Riparian vegetation:
1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.

3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 80 percent of total linear streambank in stable condition.

D03 RANGE NON-STRUCTURAL IMPROVEMENT-RETREATMENTS

Re-treat 1,050 acres of improved forage areas in accordance with Table 35 and the following standards:

1. The area to be treated is situated on one or more of the following soil mapping units: 12, 16, 17, 18, 19, 27, 30, 40, 250, 251, 255, 256, 257, 258, 260, 261, 502, and 503.
2. Created opening is not larger than 40 acres.
3. Maximum width of any created opening is 10 chains.
4. Maximum sight distance within any created opening is 15 chains.
5. Minimum distance between created openings is 10 chains.
6. Exclude livestock from treated areas for not less than two growing seasons.
7. Visual resource management standards to meet partial retention visual quality objective for Highway 64 are:
   a. Stand size is two to 10 acres.
   b. Span of stand along corridor not to exceed five chains.
   c. Complete cleanup of activity slash within three months of treatment.
8. Visual resource management standards to meet partial retention visual quality objective for FDR 307 are:
   a. Stand size is two to 40 acres.
   b. Span of stand along corridor not to exceed ten chains.
   c. Complete cleanup of activity slash within one year of treatment.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing and add new structural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Inspect 50 percent of the allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORY

Complete forest inventory on 51,120 acres and revise on a 10-year cycle.

E03 SILVICULTURAL EXAMINATION AND PRESCRIPTION

Complete stand delineation, mapping, vegetative and condition class typing, and acreage assignment for all lands in the management area. Maintain EDP stand information system. Apply standards and guidelines on an assessment area basis (approximately 10,000 acres), rather than on an individual timber sale basis, to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

E06 TIMBER SALE PREPARATION

Make commercial and personal-use fuelwood, and miscellaneous forest product sales in accordance with Table 35 and the standards and guidelines for F03 Improvement.

Utilization standards: Fuelwood sizes vary by objectives.

E07 TIMBER HARVEST ADMINISTRATION

Administer commercial and personal-use permits for fuelwood and miscellaneous forest products. This includes accountability, financial management, field inspections, and contract interpretation and enforcement. Close local roads until the next entry by signing and physical obstructions such as gates or barriers. Obliterate temporary roads and return them to production. Impose temporary ORV restrictions until revegetated.

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) in FY 1987; complete watershed condition inventories in FY 1990.

F02 PLANNING

Develop watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process in FY 1995.

F03 IMPROVEMENT

Implement land treatment and structural measures as specified in Table 35 and in accordance with the following guidelines. Land treatment measures are (1) closure and revegetation of 43 acres of system roads identified for obliteration in the transportation inventory; and ground cover imporvements on 670 acres in the following soil mapping units: 12, 16, 17, 18, 19, 27, 30, 40, 250, 251, 255, 257, 258, 260, 261, 502, and 503 and the following guidelines:

1. Created opening is not larger than 40 acres.
2. Maximum width of the opening is 10 chains.
3. Maximum sight distance within the opening is 15 chains.
4. Minimum distance between any two openings is 10 chains.
5. Visual resource management standards to meet partial retention visual quality objective for Highway 64 are:
   a. Stand size is two to 10 acres.
   b. Span of stand along corridor is not to exceed five chains.
   c. Complete cleanup of activity slash within three months of treatment.
6. Visual resource management standards to meet partial retention visual quality objective for FDR 307 are:
   a. Stand size is two to 40 acres.
   b. Span of stand along corridor is not to exceed ten chains.
   c. Complete cleanup of activity slash within one year of treatment.
7. Exclude livestock from treated area for not less than two growing seasons.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined (after problem assessment, examination of alternatives and appropriate review by local or State agencies and public participation) to be the most effective practical means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatable with water quality goals. These practices are involved in activities effecting the Forest and grassland resource and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Stream courses will be desigated within timber sales to protect watershed values. This protection will include controls on skidding within riparian areas and along or across designated stream courses.
3. Rehabilitation will be applied when needed to minimize loss of site productivity following activities ior wildfire.

F05 RESOURCE INVENTORY REPORTS

Complete TES reports in FY 1987.

F07 RIGHTS/USE MANAGEMENT

Annually update the forest water uses, requirements and rights inventory. Obtain water rights before developing new water.

P11 TREATMENT OF ACTIVITY FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 50 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

RESOURCE MANAGEMENT PRACTICE: Minerals Management

Work Activity and Standard and Guideline

J04 WITHDRAWALS, MODIFICATIONS, AND REVOCATIONS

Withdraw the following areas to locatable mineral entry:
1. Visually sensitive areas (680 acres) along Highway 64.
2. Cultural resource sites with National Register status.

G03 PROCESSING OF EXPLORATION PROPOSALS

Impose operating constraints on leasable and locatable mineral prospecting and exploration activities in or adjacent to the following wildlife habitat components.

Habitat Component and Area of Restriction	Restriction	Approximate Season of Restriction
Within 20 chains of calving and fawning areas.	No surface disturbance or occupancy.	April to June
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	No surface disturbance or occupancy.	April to July

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special-use sites.	Areas of large capital investments Yearlong for the effective term of the lease.	No surface disturbing activities.
Soil map units with slopes of 15 percent or greater.	Areas with moderate to high erosion potential. Yearlong, for the effective term of the lease.	Special mitigation measures required for surface disturbing activities.
Within 10 chains of all sites listed on National Register.	Protection of historic values. Yearlong, for the effective term of the lease.	No surface disturbance or occupancy.
Individual colonies of T&E and sensitive plants.	Limited plant populations require protection. Yearlong, for the effective term of the lease.	No casual uses, surface distrubance or occupancy.

Area of Restriction	Reason and Duration of Restriction	Restriction
Within one mile of T&E raptor nest sites.	Nesting activities highly susceptible to disturbance. March to July, for the effective term of the lease.	No surface disturbance or occupancy.
10 chain wide corridor and open meadows along Highway 64.	Areas visually sensitive to any alteration. Year-long, for effective term of the lease.	No surface disturbing activities.
Within 10 chains of developed recreation sites.	Areas visually sensitive to any alteration. May to October for the effective term of the lease.	No surface disturbing activities.
Within 20 chains of raptor nest sites and 40 chains of water sources.	Nesting activities highly susceptible to disturbance. April to July, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of calving and fawning sites.	Calving and fawning activities highly susceptible to disturbance. April to June, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of water sources.	Allow unrestricted access to water sources. Year-long for the effective term of the lease.	No surface disturbing activities or occupancy.

Discontinue common variety mineral material disposals from existing sources, rehabilitate existing material pits, and prevent development of potential sites in:

1. 10 chain wide corridor along Highway 64.
2. Within 20 chains of turkey and raptor nest sites, calving and fawning areas, and water sources.
3. Areas with semi-primitive or semi-primitive motorized ROS classifications.

G05 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral developments based on:

1. Construction, maintenance and hauling costs.
2. Integration with other resource management uses.
3. Monitoring of wildlife impacts and,or mitigation of habitat loss through habitat improvement projects.
4. Impacts on visual quality objectives.
5. Impacts on areas of concentrated recreation use.

F01 SOIL AND WATER RESOURCE INVENTORY

Conduct level 2 soil inventory of mined areas scheduled for restoration.

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

G08 RESERVED AND OUTSTANDING RIGHTS

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT (NON-RECREATION)

Allow expansion of major utility corridors and clearing of new corridors so that they attempt to avoid the following areas:
1. Areas with pristine, primitive or semiprimitive ROS classifications.
2. Areas with high cultural resource values.
3. Important wildlife habitat areas.
4. Visually sensitive areas.
5. ORV closure areas.
6. Lands classified as suitable for commercial timber production.

Provide for joint use in corridors and combine uses to the extent possible in light of technical and environmental constraints.

J02 RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS

Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees and termination dates. Adjust fees based on fair market values at five year intervals or when permits or grants are re-issued. Update land use reporting system during annual file reviews.

J05 LAND STATUS MAINTENANCE

Make initial land status entries when special use permits and right-of-way grants are issued or amended and when land conveyance cases are completed.

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

J09 OTHER LAND TITLE CLAIMS MANAGEMENT

J10 ENCROACHMENT

J11 LANDOWNERSHIP PLANNING

J12 LAND ADJUSTMENT PLANNING

J13 LAND EXCHANGE

On lands designated as base-in-exchange, limit capital investments in range structural or non-structural improvements, recreation improvements, administrative improvements, or timber stand improvements, etc, to those that can be amortized during the anticipated period of continued government ownership.

On lands designated as base-in-exchange, design cultural practices, such as timber sales, to protect or enhance the residual real estate values by modifying marking prescriptions to retain a component of mature trees, insuring timely disposal of activity slash using appropriate slash disposal methods, and in designing location of permanent roads.

On lands designated as base-in-exchange, avoid, where possible, the location of encumbering special uses that detrementally effect residential real estate values, and where possible locate those that must be accomodated in a manner to minimize impacts to the value of residential real estate.

J14 LAND EXCHANGE - CASH EQUALIZATION

J17 LAND SALES, GRANTS AND SELECTIONS

J18 RIGHTS-OF-WAY ACQUISTION

Aquire the following Rights-of-Way:
1. Trash Dam, 0.2 miles, FDR 307 and 683.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Facilities Management

Work Activity and Standard and Guideline

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORY

L02 ARTERIAL ROAD PRECONSTRUCTION

Design arterial roads at traffic service level B.

L03 ARTERIAL ROAD CONSTRUCTION ENGINEERING

L05 ARTERIAL ROAD RECONSTRUCTION

L06 COLLECTOR ROAD PRECONSTRUCTION

Design collector roads at traffic service level B.

L07 COLLECTOR ROAD CONSTRUCTION ENGINEERING

L09 COLLECTOR ROAD RECONSTRUCTION

L19 ROAD OPERATION

Road maintenance standards are:

1. Maintain commensurate share roads for intended commercial use.
2. Maintain local roads, closed to traffic, at maintenance level 1.
3. Maintain local service roads, open to traffic to at least a maintenance level 2.
4. Maintain local service roads to dispersed recreation sites at maintenance level 3 or higher.
5. Maintain signs with routine maintenance and replacement schedule based on inventory and field inspection.
6. Maintain arterial and collector roads at maintenance level 4 or 5.
7. Maintain local service roads with more than 50 ADT at maintenance level 3.

L24 FA & O CONSTRUCTION/RECONSTRUCTION

L25 FA & O FACILITIES MAINTENANCE

L46 POTABLE WATER SYSTEM ADMINISTRATION AND MANAGEMENT

L47 WASTEWATER SYSTEM ADMINISTRATION AND MANAGEMENT

P11 TREATMENT OF ACTIVITY FUELS

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Minimize fire fighting costs.
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. The maximum average annual burned area is 1,025 acres.
5. The maximum fire size objective is 200 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

The initial response objective is to economically confine all fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed the size objective are considered escaped and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA will consider at least the following:

1. The resource management emphasis of threatened management areas.
2. Suppression costs commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptence of acreage burned.
5. Current availability of suppression resources.
6. Confinement of fires to the woodland vegetation.
7. Size objectives based on continuous area of high intensity burn.
8. Impacts on cultural resources.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 7: EXISTING RECREATION DEVELOPMENT SITES ACRES: 1,544

Recreation: This management area includes the 26 existing public and private sector recreation development sites in the Kaibab National Forest. These sites are listed in Tables 34 and 35. Existing public and private sector developed recreation sites are able to accomodate over 700,000 persons annually depending on available financing and length of operating season.

Most public sector sites are operated at less than standard management. Insufficient funding often delays routine heavy maintenance of facilities and, as a result, facilities in older public sector sites are deteriorating . Concession operation of public sector campgrounds can be used to reduce Forest Service operating costs. Private sector sites are operated at standard service management under terms and conditions of special use permits.

Developed recreation sites in both sectors are operating at or near their physical capacities. Based on projected moderate increases in developed recreation demand, there is or soon will be a shortage of developed recreational facilities.

Soils, Climate and Vegetation: Ponderosa pine is the predominate vegetation in this management area. Aspen and Gambel oak are present in some developed recreation sites usually as understory vegetation. Vegetation typical of the woodland and ponderosa pine transition zone is prevalent on developed sites in the Tusayan district.

Ponderosa pine stands that occupy developed recreation sites are generally in the mature or overmature condition class. Mortality from soil compaction, vandalism and natural causes, and the removal of hazardous trees, is reducing vegetative cover in many developed sites. The establishment of new vegetation on impacted sites is difficult because of concentrated recreation use. The tree cover in Jacob Lake campground and immediate vicinity is severely infected with dwarf mistletoe.

Cooler temperatures typical of the high elevation coniferous forest are prevalent for most developed recreation sites. Many visitors to the Forest come from the Phoenix metropolitan area for climatic relief from extreme summer temperatures.

Wildlife: Most of the fishing use in the forest occurs in this management area. All fish are stocked by Arizona Game and Fish Department. Lakes are treated periodically for algae and undesirable fish species.

Water Quality: Most campgrounds in the Williams-Chalender unit are adjacent to impoundments that offer water oriented recreation activities. With the exception of White Horse Lake, all of these impoundments are water storage facilities for the City of Williams. Campground capacity is established to ensure preservation of water quality.

Land Ownership Management: All existing developed recreation sites are withdrawn to entry under the mining laws, excepting Moqui Lodge; however the area withdrawn for Bill Williams Ski area may be enlarged to accomodate the proposed development and facilities in this area.

Visual Resources: Visual management objective of partial retention for developed recreation sites allows management activities that remain visually subordinate to the characteristic landscape. Resource management practices adjacent to recreation areas may affect visual diversity if activities are not modified to address visual concerns related to timely completion of projects and changes in species composition, stand size and age.

Dam Safety: Cataract Lake Dam, Dogtown Lake Dam, Kaibab Lake Dam, and Whitehorse Lake Dam are inspected and maintained annually.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 7

Management emphasis: Manage public sector sites at standard service level within existing site capacities. Provide for expansion of Moqui Lodge, Jacob Lake Inn and Kaibab Lodge (private sector sites) in planning period 1 or decade 2.

Table 37. Land Classification in Management Area 7 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	0
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	0
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	1,544
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	1,544
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	0
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	0
3. Forested land physically not-suitable	0
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	0
b. Suitable timberland not-appropriate for timber production	0
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	1,544
Total non-forested land	0
Total forested land not-suitable for timber production	1,544
Total timberland suitable for timber production	0
Total National Forest Land	1,544

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Compile use data of developed recreation sites gathered during 85 percent of operating seasons by approved statistical sampling methods (RIM reliability class 1). Prepare district recreation operation and maintenance plans annually for developed sites. Revise district recreation opportunity guides as necessary. Review existing interpretive plans for developed sites annually.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab Nationaal Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Developed recreation sites are assigned visual quality objective of partial retention foreground.

A05 FACILITY AND SITE RECONSTRUCTION

Provide for reconstruction or replacement of existing facilities at the following public sector developed sites. Upgrade facilities in RIM condition class 2 or below to RIM condition class one.

1. White Horse Lake Campground.
2. Kaibab Lake Campground.
3. Demotte Campground.
4. Cataract Lake Campground.
5. Ten-X Campground.
6. Dogtown Lake Campground.
7. Indian Hollow Campground.
8. Jacob Lake Campground.

Allow reconstruction and improvement of private sector developed sites within current site capacity allocations.

A06 FACILITY AND SITE CONSTRUCTION

Review and administer expansion and construction proposals for the following existing private sector developed recreation sites:

1. Jacob Lake Inn: Construct additional lodge facilities to increase capacity by 250 PAOT in planning periods 1 and 2.
2. Kaibab Lodge: Construct additional lodge facilities to increase capacity by 75 PAOT in planning periods 1 and 2.
3. Moqui Lodge: Construct additional lodge facilities to increase capacity by 750 PAOT; construct 750 PAOT Recreation Vehicle Park in planning periods 1 and 2.

A07 FACILITY AND SITE MANAGEMENT

Operate and maintain the following public sector sites at standard service management during the operating season. Maintain facilities to RIM condition class 1.

Table 38. Operating Season for Public Sector Recreation Development Sites

Development Site	Operating Season
White Horse Lake Campground	5/15 to 10/31
Kaibab Lake Campground	5/15 to 10/31
Cataract Lake Campground	5/15 to 10/31
Dogtown Lake Campground	4/15 to 10/31
Ten-X Campground	5/1 to 10/31
Jacob Lake Campground	5/15 to 10/31
DeMotte Campground	5/15 to 10/31
Indian Hollow Campground	5/1 to 10/31
Chalender District Office	5/1 to 10/31
Williams District Office	5/1 to 10/31
North Kaibab District Office	5/15 to 10/31
Tusayan District Office	5/1 to 10/31
Jacob Lake Information Ctr.	5/15 to 10/15
Benham Snowplay Area	12/1 to 3/1
Garland Prairie Vista	4/15 to 10/31
Oakhill Snowplay Area	12/1 to 3/1
Parks Rest Area Int. Ttail	4/1 to 12/1
Highway 89A Overlook	6/1 to 10/31

In cooperation with Coconino County, explore the potential for expansion of an 285 PAOT in Cataract Lake Recreation Area. Evaluate opportunities for the operation and maintenance of Cataract Lake recreation area under special use permit with Coconino County in accordance with approved site concept plans.

Provide information services at district offices on weekends during the summer and fall seasons.

Monitor potable water systems in accordance with Safe Drinking Water Act.

Enforce 14-day stay limit in all public sector development sites during the operating season.

Provide volunteer hosts at all public sector fee campgrounds.

Operate the Jacob Lake Information Center under full Forest Service management.

Administer LWCF fee program daily at the following public sector development sites:
1. White Horse Lake Campground.
2. Kaibab Lake Campground.
3. Cataract Lake Campground.
4. Dogtown Lake Campground.
5. Ten-X Campground.
6. Jacob Lake Campground.
7. DeMotte Campground.

Administer the following private sector development recreation sites during the operating season.

Table 39. Operating Season for Private Sector Recreation Development Sites

Development Site	Operating Season
White Horse Lake Resort	1/1 to 12/31
Williams Country Club	5/1 to 9/30
Bill Williams Ski Area	12/15 to 4/1
Jacob Lake Inn	4/1 to 12/31
Kaibab Lodge	6/1 to 10/20
North Rim Store	5/15 to 9/30
Moqui Lodge	4/1 to 12/31
Moqui Lodge RV Park	5/1 to 10/31

L19 ROAD OPERATION

Maintain roads accessing developed recreation sites to maintenance level 4 or higher.

L28 DAM ADMINISTRATION AND MANAGEMENT

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION

RESOURCE MANAGEMENT PRACTICE: Minerals Management

Work Activity and Standard and Guideline

J04 WITHDRAWALS, MODIFICATIONS, AND REVOCATIONS

Withdraw Moqui Lodge area (50 acres) to locatable mineral entry.

G03 PROCESSING OF EXPLORATION PROPOSALS

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special-use sites.	Areas of large capital investments	No surface disturbing activities.
Within 10 chains of developed recreation sites.	Areas visually sensitive to any alteration. May to October for the effective term of the lease.	No surface disturbing activities.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT

J05 LAND STATUS

J06 LAND LINE LOCATION

J07 LAND LINE MAINTENANCE

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Protect human life and improvments. Minimize acreage burned.
2. Do not allow fires to spread to lands of other ownership.
3. The maximum fire size objective is one acre.
4. The average annual burned area objective is two acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

Direct attack and control all fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed the maximum size objective are considered escaped fires and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA considers at least the following:

1. Resource management emphasis of threatened management areas.
2. Suppression costs commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Minimization of acreage burned in the analysis area.

P11 TREATMENT OF ACTIVITY FUELS

Dispose of all activity created slash.

P12 TREATMENT OF NATURAL FUELS

Encourage utilization of natural fuels in and adjacent to this area for on-site fuelwood needs.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 8: PROPOSED RECREATION DEVELOPMENT SITES; ACRES 2,228

Recreation: The need for additional recreation facilities can be met with the construction of new public and private campgrounds, lodge facilities and visitor information centers. Tables 41 and 42 list the proposed recreation sites in this management area.

The private sector has the capability to accomodate increased recreation demand associated with visitation to Grand Canyon National Park. New facilities in both the public and private sectors can increase the capacity of the Forest to accomodate over 850,000 visitors, annually.

Soils, Climate and Vegetation: Ponderosa pine is the dominant vegetation in most proposed recreation development sites. Most stands are immature or mature condition class and have been managed as part of the suitable timberland base. Temperatures and precipitation in the management area are indicative of the high elevation coniferous forest.

Water Quality: None of the proposed sites is associated with an existing water impoundment. Construction of the Adams Lake campground is predicated on the development of Adams Lake, a municipal water storage facility proposed by the City of Williams.

Wildlife: Adams Dam and Big Springs ponds will provide fishing opportunities and waterfowl and bald eagle habitat.

Minerals: Proposed recreation sites are open to mineral entry; however it appears that none of the sites involve lands known to contain valuable mineral resources. All proposed sites are recommended for withdrawal under the mining laws.

Visual Resources: The ultimate location of a proposed developed recreation site is generally based on a combination of desirable attributes of a given area. The landscape setting is one important factor that determines an areas suitability for development. Various landscape elements of proposed recreation sites provide essential visual diversity. Resource management practices within and adjacent to proposed sites may affect visual diversity if activities are not modified to address visual concerns related to species composition, stand size and age class distribution.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 8

Management emphasis: Emphasize private sector investments in the early planning periods. Provide for construction of the Bill Williams Ski Area and Grandview campground in this planning period; DeMotte II campground in decade 2 and Orderville Canyon campground in decade 3,(all private sector developments). Defer public sector investments to later decades; construct Highway 64 Information Center in decade 3, Adams Lake campground in decade 4 and Big Springs day-use area in decade 5. Manage all new recreation sites at standard service level.

Table 40. Land Classification in Management Area 8 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	0
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	0
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	2,228
d. Research natural area	0
Total forested land withdrawn from timber production	2,228
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	0
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	0
3. Forested land physically not-suitable	0
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	0
b. Suitable timberland not-appropriate for timber production	0
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	2,228
Total non-forested land	0
Total forested land not-suitable for timber production	2,228
Total timberland suitable for timber production	0
Total National Forest Land	2,228

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Compile use data of developed recreation sites gathered during 85 percent of operating seasons by approved statistical sampling methods (RIM reliability class 1). Prepare district operation and maintenance plans annually for developed sites. Revise district recreation opportunity guides as necessary. Review interpretive plans for developed sites annually.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A

Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab Nationaal Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:
1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Inventory existing visual condition (EVC) and visual absorption capability (VAC) of the landscape during planning period 1.

Proposed developed recreation areas have assigned visual quality objectives of partial retention foreground.

A08 FACILITY AND SITE CONSTRUCTION

Prepare and implement site concept plans for the following expansion and construction proposals:
1. Highway 64 Information Center: Construct, in decade 3, 1,200 square feet visitor center to accomodate 75 PAOT with parking facilities for 50 vehicles.
2. Adams Lake Recreation Area: Construct, in decade 4, 400 PAOT campground in conjunction with the development of Adams Lake, a proposed municipal water storage facility for the City of Williams; provide for the construction of 80 campsites, potable water system, boat ramp, parking for day-use, toilet facilities, and interior roads.
3. Big Springs Recreation Area: Construct, in decade 5, 100 PAOT day-use area consisting of 20 picnic sites, toilet facilities, and day-use parking area.

Prepare prospectus, review concept plan, issue and administer special-use permit for the construction, operation, and maintenance of the following new private sector campgrounds:
1. Grandview Recreation Area in planning period 1.
2. DeMotte II Recreation Area in decade 2.
3. Orderville Canyon Recreation Area in decade 3.

Design each site to accomodate approximately 400 PAOT, and provide facilities equal to or better than those in public sector LWCF fee collection sites.

Close the existing public sector DeMotte campground with the construction of the new DeMotte II private sector campground.

Standards and guidlines for management of the proposed Bill Williams Ski Area will be implemented in accordance with the final decision of the Bill Williams Ski Area EIS.

A07 FACILITY AND SITE MANAGEMENT

Operate and maintain the following public sector sites at standard service management during the operating season. Maintain facilities to RIM condition class 1.

Table 41. Operating Season for Proposed Public Sector Recreation Development Sites

Development Site	Operating Season
Highway 64 Information Center	4/1 to 12/31
Adams Lake Recreation Area	4/15 to 10/31
Big Springs Recreation Area	4/15 to 11/15

Provide information services at district offices on weekends during the summer and fall seasons. Enforce 14 day stay limit in all public sector developed sites during the operating season. Provide volunteer hosts at all public sector fee campgrounds.

Administer LWCF fee program daily at Adams Lake Campground.

Administer the following private sector developed recreation sites during the operating season.

Table 42. Operating Season for Proposed Private Sector Recreation Development Sites

Development Site	Operating Season
Grandview Recreation Area	5/1 to 10/31
Orderville Recreation Area	5/15 to 11/1
DeMotte II Recreation Area	5/15 to 11/1

L19 ROAD OPERATION

Maintain roads accessing developed recreations sites to maintenance level 4 or higher. Maintain roads within constructed, reconstructed and expanded sites to level 5.

L28 DAM ADMINISTRATION AND MANAGEMENT

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species, and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area.

RESOURCE MANAGEMENT PRACTICE: Minerals Management

Work Activity and Standard and Guideline

J04 WITHDRAWALS, MODIFICATIONS, AND REVOCATIONS

Withdraw the following proposed developed recreation sites:
1. Adams Lake Campground (1,848 acres).
2. Highway 64 Information Center (10 acres).
3. Grandview Campground (160 acres).
4. Bill Williams Winter Sports Area (721).

G03 PROCESSING OF EXPLORATION PROPOSALS

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special-use sites.	Areas of large capital investments	No surface disturbing activities.
Within 40 chains of developed recreation sites.	Areas visually sensitive to any alteration. May to October for the effective term of the lease.	No surface disturbing activities.

G05 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral developments based on:
1. Construction, maintenance and hauling costs.
2. Integration with other resource management uses.
3. Monitoring of wildlife impacts and, or mitigation of habitat loss through habitat improvement projects.
4. Impacts on visual quality objectives.
5. Impacts on areas of concentrated recreation use.

F01 SOIL AND WATER RESOURCE INVENTORY

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

G08 RESERVED AND OUTSTANDING RIGHTS

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) in FY 1987. Complete watershed condition inventories in FY 1990.

F02 PLANNING

Develop watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process by the end of FY 1995.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined (after problem assessment, examination of the alternatives and appropriate review by local or State agencies and public participation) to be the most effective practicable means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatible with water quality goals. These practices are involved in activities affecting the forest and grassland resource and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Stream courses will be designated to protect watershed values. This includes controls on activities within riparian areas and along or across designated stream courses.
3. Rehabilitation is done to minimize loss of site productivity following ground disturbance.

F05 RESOURCE INVENTORY REPORTS

Complete TES report in FY 1987. Annually update the water uses, requirements and rights inventory.

F07 RIGHTS/USE MANAGEMENT

Obtain water rights before developing new waters.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USES MANAGEMENT

J05 LAND STATUS

J06 LAND LINE LOCATION

J07 LAND LINE MAINTENANCE

J18 RIGHTS-OF-WAY AQUISITION

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Protect human life and improvments. Minimize acreage burned.
2. Do not allow fires to spread to lands of other ownership.
3. The maximum fire size objective is one acre.
4. The average annual burned area objective is 2 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

Direct attack and control all fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed the maximum size objective are considered escaped fires and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA considers at least the following:

1. Resource management emphasis of threatened management areas.
2. Suppression costs commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Minimization of acreage burned in the analysis area.

P11 TREATMENT OF ACTIVITY FUELS

Dispose of all activity created slash.

P12 TREATMENT OF NATURAL FUELS

Encourage utilization of natural fuels in and adjacent to this area for on site fuelwood needs.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 9: 195,161 ACRES

This management area is situated across the southern portion of the Tusayan unit. It is an elevated plain dissected with numerous drainage systems and isolated scarp slopes. Elevations range from 6,200 feet to 6,700 feet. Drainage systems are well defined and flows are ephemeral.

Sixty-four percent of the soils in this management area are moderately deep and are moderately suitable for management actions; twenty-seven percent are shallow and very poorly suited for management actions; and the remaining nine percent are shallow to moderately deep and poorly suited for management actions. Soil and water management problems in this area are unsatisfactory watershed condition, accelerated soil erosion, and loss of soil productivity. Approximately 50 percent of the area is in unsatisfactory watershed condition. Unneeded system roads and poorly constructed and maintained roads contribute to accelerated sedimentation.

Climate of this management area is characterized by relatively dry spring and fall seasons. The average annual precipitation is 16 inches. Normally the driest months are May and June with the wettest being July and August. Distribution of precipitation is about equal between the summer and winter months.

Ninety percent of the management area is woodland vegetation. The tree component is dominated by pinyon pine and Utah juniper; big sagebrush is a substantial ground component in this management area. Graminoid species include mutton bluegrass, squirreltail, junegrass, Indian ricegrass, and blue grama. Winterfat, fourwing saltbush, and needle and thread are found with blue grama and Indian ricegrass on calcareous soils.

Ten percent of this management area is fringe ponderosa pine vegetative type. This type is ponderosa pine with pinyon pine and Utah juniper. Big sagebrush and Gambel oak may also be present, but these species are localized. Herbacious forage species are blue grama, mutton bluegrass, squirreltail, and junegrass.

Wildlife: This area is winter habitat for mule deer and is used to some extent by wintering elk. Important pine stringer habitat is in this area. Pine stringers contribute significant diversity to this habitat. Winter turkey roost tree-groups are a very important feature in this habitat. The eastern portion of the area provides most of the winter habitat for pronghorn antelope using the area. Competition for forage in the area by big game and livestock has resulted in degradation of the browse component and sources of water are inadequate and not well apportioned in this area. Chrysothamnus molestus (sensitive plant) is found in this area.

Opportunities exist to improve winter habitat by utilizing fuelwood harvest in the pinyon-juniper.

The management indicator species are mule deer, elk, pronghorn antelope, turkey, hairy woodpecker, and plain titmouse.

Minerals: The management area has moderate to high potential for uranium. Prospecting and exploration activities on numerous uranium prospects throughout the unit are at a high level. Uranium exploration, and any future mine developments, can impact other resource values and uses.

Small amounts of oxidized copper ore have been produced from several prospects within the unit. Copper and other base and precious metals have sometimes been found in association with breccia pipe deposits of uranium.

The management area has low to moderate potential for oil and gas. Oil and gas lease applications have been received for large portions of the unit. Lease recommendations, including any special surface use stipulations, must be made for pending and future lease applications. Oil and gas prospecting activities, including possible exploration proposals, are likely to continue.

Existing and potential mineral material sources for road surfacing and construction projects are scarce.

Land ownership management: The limited private land base in the Tusayan area has restricted community growth. The designation of base-in-exchange lands in the area could relieve problems associated with community expansion. However, expansion without coordinated, planned development could place additional financial burden on Coconino County.

A major utility corridor crosses the southern portion of the unit. The unit is suited for expansion of the existing corridor or clearing of new corridors due to its low visual sensitivity.

Visual resources: Visual quality objectives for most of the unit allow for modification of the characteristic landscape. The corridor along Highway 64 to Grand Canyon National Park is visually sensitive to alteration. Resource management activities within this corridor are visually subordinate to the characteristic landscape.

Cultural resources: Cultural resource site densities are generally high; however large portions of the unit have not been inventoried. Most inventories have been conducted in conjunction with uranium prospecting and exloration activities which are site specific and limited in area. Little is known about the distribution and significance of cultural resource sites in the area.

Recreation: Recreation use within the unit is low and use is generally associated with big game hunting and gathering of forest products. The predominate ROS class is SPM.

Range: Open grasslands are scattered throughout the area and are important forage areas for livestock. Many non-structural (forage) improvement areas have been invaded by pinyon-juniper, big sagebrush and rubber rabbitbrush. Opportunities exist for overstory modification to improve forage production and watershed conditions. Fuelwood harvesting followed with seeding of browse, forbs and grasses increases forage production and improves watershed condition and wildlife habitat. There are 109,054 acres of full capacity range, of which 64,521 acres are in satisfactory condition, and 44,533 acres are in unsatisfactory condition. Permitted grazing use is not in balance with grazing capacity. Actual livestock use has been variable and significantly less than permitted. Reliable water sources are inadequate. Proper distribution of livestock is difficult to obtain due to the lack of water. Range improvements and practices, such as water development or hauling, fencing, salting, and herding are needed to disperse livestock use. Range structural improvements consist of fences and water developments. Maintenance and replacement of improvements is necessary to sustain grazing capacity.

Facilities: Access to this management area is via Highway 64 and FDR 301, 305, 306, 307, 310, 312, 320, 328, 347, and 688. These system roads are native surfaced and provide dry-weather access. The local road system provides additional dry-weather access for forest protection, resource utilization and management, and access to private land. There are 612 miles of local roads in the area for a local road density of 2.05 miles per square mile.

The abandoned spur of the Atchison, Topeka and Santa Fe Railroad from Williams to Grand Canyon National Park crosses this management area.

The Tusayan Ranger station and administrative site is in the management area. The administrative site provides housing for Forest Service and FAA personnel, a work center, and storage facilites.

Red Butte Lookout is located in the area and is maintained for fire detection. Grand Canyon Tanker Base, a regional facility, is maintained at the Grand Canyon Airport for fire suppression.

Fire Management: The fuel profile is not conducive to large, high intensity fires. The potential for resource damage is low and most fires are more beneficial than damaging. An opportunity exists to significantly reduce protection costs without serious damage to the resources.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 9

Management emphasis: Provide moderate level of management for dispersed recreation, range, and minerals; moderate level of investment for soil and water improvement and wildlife habitat improvement; low-moderate level of Landownership management, fire management, and facilities management; and no commercial timber harvesting and fuelwood management.

Table 43. Land Classification in Management Area 9 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	10,064
2. Seral grassland	0
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	10,064
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	171,408
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	171,408
3. Forested land physically not-suitable	10,979
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	2,710
b. Suitable timberland not-appropriate for timber production	2,710
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	185,097
Total non-forested land	10,064
Total forested land not-suitable for timber production	185,097
Total timberland suitable for timber production	0
Total National Forest Land	195,161

Table 44. Vegetative Treatment by Resource Activity in Management Area 9 in Planning Period 1

Resource Activity		Acres
Not-suitable forest land		
Pinyon-juniper woodland		
Seed cutting		0
Range non-structural improvement (seeding)		0
Wildlife non-structural improvement		18,980
Fuelwood (special cutting)	6,520	
Burning	2,500	
Planting and seeding	9,960	
Soil and watershed improvement (special cutting)		1,800
Seral and shrub grassland		
Wildlife non-structural habitat improvement		750
Range non-structural improvement - retreatment		1,350
Coniferous forest		
Wildlife non-structural improvement		0
Aspen (special cutting)	0	
Brush treatment	0	
Burning	0	
Planting and seeding	0	
Suitable timberland		
Coniferous forest		
Site preparation		0
Precommercial thinning		0
Intermediate harvest		0
Range non-structural improvement (seeding)		0
Seed cutting		0
Final removal cutting		0
Wildlife non-structural improvement		0
Burning	0	
Planting and seeding	0	

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Use traffic counts, trail counts, and visitor registration systems to determine dispersed recreation use (RIM reliability class 4). Use visitor counts and length of stay data to determine use of popular dispersed facilities and areas (RIM reliability class 3). Update ROS inventory and classifications at 5-year intervals beginning in 1990. Monitor ORV use during scheduled patrols and revise the ORV plan to prevent resource damage and user conflicts. Prepare district recreation operation and maintenance plans annually for dispersed areas. Revise district dispersed recreation opportunity guides as necessary.

Prepare viewshed corridor plans for all sensitivity level 1 travel routes.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be

updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context [e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values];
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab Nationaal Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include [a] consultation and meetings, [b] sharing of data, plans, reports, interpretations and other documents, [c] coordination on National Register nominations, and [d] participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be

those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the Kaibab National Forest in planning period 1.

Inventory the existing visual condition (EVC) and visual absorption capability (VAC)) of the landscape during planning period 1.

Red Butte has an assigned visual quality objective of partial retention background.

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENT

Protect all cultural resource sites located in project areas through avoidance. Evaluate all sites for national register eligibility on a priority basis. Priority is based upon preliminary indications of relative significance.

A07 FACILITY AND SITE MANAGEMENT

Provide information services at district offices during the recreation season. Prepare and distribute news releases regularly on dispersed and developed recreation opportunities. Prepare and publish brochures for specific dispersed recreation facilities.

A08 USE ADMINISTRATION

Operate and maintain heavily used dispersed areas and facilities to standard service management by providing regular scheduled patrols throughout the recreation season. Provide control measures for areas where the following resource damage occurs: (1) Soil compaction, (2) loss of vegetative cover, (3) tree damage and mortality, and (4) deterioration of water quality.

Close the following areas to off-road vehicle traffic:

Table 45. Off-Road Vehicle Area Closures in Management Area 9

Name	District	Acres	Reason for Restriction	Restricted Vehicle Type
Red Butte	Tusayan	1,230	Unique geology	All

Visitor occupancy is restricted to 14 days in any 30-day period.

Maintain area camping closures around developed sites.

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Inspect dispersed recreation trails annually. Maintain trails to maintenance level 3 or higher (as defined in FSH 1309.11a 1986-1990).

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species, and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

Survey and evaluate assessment areas during project design and plan projects to achieve the following habitat objectives:

Provide forage cover ratios between 40:60 to 60:40.

Snags:
1. Ponderosa pine: not less than 180 snags, 14 inches and larger DBH and 15 feet in height, per 100 acres over 55 percent of the forested area.
2. Pinyon-juniper: not less than 100 snags, 9 inches and larger DRC and 12 feet in height, per 100 acres over 55 percent of the forested area.

Achieve snag habitat objectives based on the specific needs of the area through the use of the following practices by priority:
1. Protect and retain existing snags.
2. Intensively manage to meet habitat objectives on snag management emphasis areas (forest opening edges, water sources).
3. Promote recruitment by:
   a. Retain live disease free cavity trees.
   b. Retain culls and damaged trees.
4. Induce mortality
   a. Kill diseased trees.
   b. Kill healthy trees.

Turkey Habitat:
1. Provide for not less than four turkey roost tree-groups per section in turkey winter range and not less than two turkey roost tree-groups per section in turkey summer range.
2. Emphasize turkey winter habitat in areas within 40 chains of pine stringers. (Pine stringers are defined as non-contiguous, linear communities of predominately ponderosa pine, up to 40 chains in width, that extend into the pinyon-juniper woodland below the typical elevational distribution of ponderosa pine).
3. Provide for a minimum of one cover structure per two acres within 40 chains of water for turkey nesting cover.

Peregrine falcon habitat:
1. Prohibit activities which disturb nesting birds in the vicinity of essential nesting habitat from March 15 to August 15. This period can be extended if the birds remain strongly attached to nest sites after August 15 .

Spotted owl habitat:
1. Maintain 300 acres of contiguous core area habitat in occupied nest territory.
2. Maintain existing old-growth and down-woody material in each core area.

Raptor habitat:
Retain raptor nest tree-groups and a non-activity buffer around raptor nest sites as follows:
1. Goshawk: 8-chain buffer zone around the nest.
2. Cooper's hawk: 7-chain buffer zone around the nest.

3. Sharp-shinned hawk: 6-chain buffer zone around the nest.
4. Others: 3-chain buffer zone around the nest.
5. Protect verified bald eagle winter-roosts with a 5-chain buffer zone around the roost. Prohibit road development in the roost and buffer zone.

Hiding and thermal cover:
1. Provide for hiding and thermal cover in fawning and calving areas.
2. Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.
3. Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Areas allocated for hiding cover will be not less than 10 chains in width.

Old-growth stands:

Allocate coniferous forest timber stands for old-growth habitats as specified in Table 46 and the following guidelines.

Table 46. Allocation of Coniferous Forest Stands in Management Area 9 for Old-Growth Habitat

Suitable timberland allocated to extended rotations for old-growth habitat:	Acres
1. Seedling and sapling	0
2. Poletimber	0
3. Immature sawtimber	0
4. Mature sawtimber	0
Unsuitable timberland allocated to old-growth habitat:	2,744
Total	2,744

1. Stand size is not less than 100 acres and five chains in width.
2. Stands allocated and selected for old-growth habitats will be well-distributed across the management area.
3. Any stand selected for old-growth habitat will be taken from the best stands in the assessment area. Criteria for defining best stands is developed from current biological literature.
4. Ponderosa pine:
   a. (1) Not less than 1,400 trees, 20 inches DBH or larger, per 100 acres on sites with an index greater than 54.
      (2) Not less than 1,400 trees, 14 inches DBH or larger, per 100 acres on sites with an index less than 54.
   b. Two stories with 60 square feet of basal area in the understory.
   c. Not less than 180 snags, 14 inches DBH and larger and 15 feet in height, per 100 acres.
   d. Not less than two down trees, 12 inches and larger in diameter and 16 feet or more in length, per acre.
5. Provide for the perpetuation of certain, mature or overmature ponderosa pine (yellow pine) stands that do not have either a two-storied vegetative condition or down-woody material. These stands possess late seral characteristics and it is desirable to maintain their open condition.
6. Pinyon-juniper:
   a. Not less than 3,000 trees, 9 inches DRC or larger, per 100 acres.
   b. Not less than 100 snags, 9 inches DRC or larger, per 100 acres.
   c. Not less than two down trees, 9 inches in diameter or larger and 10 feet in length, per acre.

C02 NON-STRUCTURAL HABITAT IMPROVEMENT.

Areas needing additional forage for elk and mule deer are given priority in scheduling fuelwood wildlife habitat improvement. Treatments are usually done in areas removed from disturbance to maximize habitat effectiveness. Provide for at least 40 percent cover. Emphasize cover in travelways, bedding areas, reproductive areas, and areas adjacent to water sources and openings. Manage cover areas to provide at least 60 percent crown cover and be at least 10 chains in width.

Do non-structural wildlife habitat improvement in accordance with Table 44 and the following guidelines using special cutting, burning, seeding, and planting:

Created openings in pinyon-juniper woodland:
1. Opening is not larger than 40 acres.
2. The maximum width of the opening is 10 chains.
3. The maximum sight distance within the opening is 15 chains.
4. The minimum distance between any two openings is 10 chains.
5. Retreat these areas by burning and seeding at 30-year intervals.
6. Exclude livestock from treated areas for not less than two growing seasons.

Visual resource management standards to meet partial retention visual quality objective for Highway 64 are:
1. Stand size is 10 to 30 acres in the woodland and 10 to 50 acres in the coniferous forest.
2. Span of stand along the corridor is not to exceed ten chains.
3. Provide for total cleanup of activity slash within three months of treatment.
4. Created opening is not to exceed four acres in the coniferous forest.
5. Maintain existing overstory species composition of stands within corridor.

C03 STRUCTURAL HABITAT IMPROVEMENT

Do structural habitat improvement in accordance with the following guidelines:
1. Install protective fences, watering structures, brush piles, road closure devices, nesting structures, pothole developments, and kill trees to improve snag distribution.

2. Structural habitat improvement	structures
a. Wetland improvements: (waterfowl nesting islands, potholes,)	0
b. Aquatic improvements: (earthen tank construction)	20
c. Water developments: (springs, guzzlers, trick tanks)	30

3. Prevent livestock access to 70 percent of the shoreline of the stock tanks that have stable water levels. Fence up to five acres and seed to low height cover species.
4. Provide for one permanent water source per square mile.
5. Install structures to recharge wet meadows and riparian areas.
6. Construct, improve, and, or stabilize lakes to improve lake habitat for desirable fish species.

P11 TREATMENT OF ACTIVITY FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 50 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at their current level, C. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan. Revise existing allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment re-analysis every 10 years on allotments where management has not corrected downward trends and changes in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 70 percent of the allotments. Conduct allotment re-analysis every 20 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments as having become a problem. At 12-year intervals, conduct production-utilization surveys.

Riparian vegetation:
1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.

2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D03 RANGE NON-STRUCTURAL IMPROVEMENT-RETREATMENTS

Re-treat 1,350 acres of improved forage areas as specified in Table 44 and in accordance with the following guidelines:

1. The area to be treated is situated on one or more of the following soil mapping units: 12, 16, 17, 18, 19, 27, 30, 40, 250, 251, 255, 256, 257, 258, 260, 261, 502 and 503.
2. Created opening is not larger than 40 acres.
3. Maximum width of any created opening is 10 chains.
4. Maximum sight distance within any created opening is 15 chains.
5. Minimum distance between created openings is 10 chains.
6. Visual resource management standards to meet partial retention visual quality objective for Highway 64 are:
   a. Stand size is 10 to 30 acres.
   b. Span of stand along corridor is not to exceed than chains.
   c. Complete cleanup of activity slash within three months of treatment.
7. Exclude livestock from treated areas for not less than two growing seasons.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing and add new structural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Inspect 70 percent of the allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES

Complete forest inventory on 195,161 acres and revise on a 10-year cycle.

E03 SILVICULTURAL EXAMINATION AND PRESCRIPTION

Complete stand delineation, mapping, vegetative and condition class typing, and acreage assignment for all lands in the management area. Maintain EDP stand information system. Apply standards and guidelines on an assessment area basis (approximately 10,000 acres), rather than on an individual timber sale basis, to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

E06 TIMBER SALE PREPARATION

Make commercial and personal-use fuelwood, and miscellaneous forest product sales in accordance with Table 44 and the standards and guidelines for C02 Wildlife Non-Structural Habitat Improvement and F03 Improvement.

Utilization standards: Fuelwood sizes vary by objectives.

E07 TIMBER HARVEST ADMINISTRATION

Administer commercial and personal-use permits for fuelwood and miscellaneous forest products. This includes accountability, financial management, field inspections, and contract interpretation and enforcement. Close local roads until the next entry by signing and physical obstructions such as gates or barriers. Obliterate temporary roads and return them to production. Impose temporary ORV restrictions until revegetated.

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) in FY 1987; complete watershed condition inventories in FY 1990.

F02 PLANNING

Develop watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process in FY 1995.

F03 IMPROVEMENT

Implement land treatment and structural measures as specified in Table 44 and the following guidelines: Land treatment measures are (1) closure and revegetation of 108 acres of system roads identified for obliteration in the transportation inventory; and (2) 1,800 acres of ground cover improvements in the following soil map units: 12, 16, 17, 18, 19, 27, 30, 40, 250, 251, 255, 257, 258, 260, 261, 502, and 503.

1. Created opening is not larger than 40 acres.
2. Maximum width of the opening is 10 chains.
3. Maximum sight distance within the opening is 15 chains.
4. Minimum distance between any two openings is 10 chains.
5. Visual resource management standards to meet partial retention visual quality objective for Highway 64 are:
   a. Stand size is 10 to 30 acres.
   b. Span of stand along corridor is not to exceed ten chains.
   c. Complete cleanup of activity slash within three months of treatment.
   d. Maintain existing species composition of stands within corridor.
6. Exclude livestock from treated areas for not less than two seasons.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined (after problem assessment, examination of alternatives and appropriate review by local or State agencies and public participation) to be the most effective practical means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatable with water quality goals. These practices are involved in activities affecting the Forest and grassland resource and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Stream courses will be desigated within timber sales to protect watershed values. This protection will include controls on skidding within riparian areas and along or across designated stream courses.
3. Rehabilitation will be applied when needed to minimize loss of site productivity following activities or wildfire.

F05 RESOURCE INVENTORY REPORTS

Complete TES reports in FY 1987.

F07 RIGHTS/USE MANAGEMENT

Annually update the forest water uses, requirements and rights inventory. Obtain water rights before developing new water.

F08 RESOURCE IMPROVEMENT MAINTENANCE

Maintain watershed treatments as long as discounted benifits of watershed protection exceed discounted costs of maintenance.

P11 TREATMENT OF ACTIVITY FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 50 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

RESOURCE MANAGEMENT PRACTICE: Minerals Management

Work Activity and Standard and Guideline

J04 WITHDRAWALS, MODIFICATIONS, AND REVOCATIONS

Withdraw the following areas to locatable mineral entry:
1. Visually sensitive areas along Highway 64 (1,080 acres).
2. Cultural resource sites with National Register status.

G03 PROCESSING OF EXPLORATION PROPOSALS

Impose operating constraints on leasable and locatable mineral prospecting and exploration activities in or adjacent to the following wildlife habitat components.

Habitat Component and Area of Restriction	Restriction	Approximate Season of Restriction
Within 20 chains of calving and fawning areas.	No surface disturbance or occupancy.	April to June
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	No surface disturbance or occupancy.	April to July

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special-use sites.	Areas of large capital investments Yearlong for the effective term of the lease.	No surface disturbing activities.
Soil map units with slopes of 15 percent or greater.	Areas with moderate to high erosion potential. Yearlong, for the effective term of the lease.	Special mitigation measures required for surface disturbing activities.
Within 10 chains of all sites listed on National Register.	Protection of historic values. Yearlong, for the effective term of the lease.	No surface disturbance or occupancy.
Individual colonies of T&E and sensitive plants.	Limited plant populations require protection. Yearlong, for the effective term of the lease.	No casual uses, surface distrubance or occupancy.

Area of Restriction	Reason and Duration of Restriction	Restriction
Within one mile of T&E raptor nest sites.	Nesting activities highly susceptible to disturbance. March to July, for the effective term of the lease.	No surface disturbance or occupancy.
10 chain wide corridor and open meadows along Highway 64.	Areas visually sensitive to any alteration. Year-long, for effective term of the lease.	No surface disturbing activities.
Within 10 chains of developed recreation sites.	Areas visually sensitive to any alteration. May to October for the effective term of the lease.	No surface disturbing activities.
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	Nesting activities highly susceptible to disturbance. April to July, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of calving and fawning sites.	Calving and fawning activities highly susceptible to disturbance. April to June, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of permanent water sources.	Allow unrestricted access to water sources. Year-long for the effective term of the lease.	No surface disturbing activities or occupancy.

Discontinue common variety mineral material disposals from existing sources, rehabilitate existing material pits, and prevent development of potential sites in:

1. Ten chain wide corridor along Highway 64.
2. Within 20 chains of turkey and raptor nest sites, calving and fawning areas, and permanent water sources.
3. Areas with semi-primitive or semi-primitive motorized ROS classifications.

G05 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral developments based on:

1. Construction, maintenance and hauling costs.
2. Integration with other resource management uses.
3. Monitoring of wildlife impacts and, or mitigation of habitat loss through habitat improvement projects.
4. Impacts on visual quality objectives.
5. Impacts on areas of concentrated recreation use.

F01 SOIL AND WATER RESOURCE INVENTORY

Conduct level 2 soil inventory of mined areas scheduled for restoration.

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

G08 RESERVED AND OUTSTANDING RIGHTS

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT (NON-RECREATION)

Allow expansion of existing major utility corridors and clearing of new corridors. Attempt to avoid the following areas:

1. Areas with pristine, primitive or semiprimitive ROS classifications.
2. Areas with high cultural resource values.
3. Important wildlife habitat areas.
4. Visually sensitive areas.
5. ORV closure areas.
6. Lands classified as suitable timberland.

Provide for joint use in corridors and combine uses to the extent possible in light of technical and environmental constraints.

J02 RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS

Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees and termination dates. Adjust fees based on fair market values at five year intervals or when permits or grants are re-issued. Update land use reporting system during annual file reviews.

J05 LAND STATUS MAINTENANCE

Make initial land status entries when special use permits and right-of-way grants are issued or amended and when land conveyance cases are completed.

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

J09 OTHER LAND TITLE CLAIMS MANAGEMENT

J10 ENCROACHMENT

J11 LANDOWNERSHIP PLANNING

J12 LAND ADJUSTMENT PLANNING

J13 LAND EXCHANGE

On lands designated as base-in-exchange:

1. Limit capital investments in range structural or non-structural improvements, recreation improvements, administrative improvements, or timber stand improvements, etc, to those that can be amortized during the anticipated period of continued government ownership.
2. Design cultural practices, such as timber sales, to protect or enhance real estate values by modifying marking prescriptions to retain a component of mature trees, ensuring timely disposal of activity slash and in designing location of permanent roads.
3. Avoid, where possible, the location of encumbering special uses that detrimentally effect real estate values and, where possible, locate those that must be accomodated in a manner to minimize impacts to the value of real estate.

Evaluate land exchange proposals in the Tusayan area with these additional criteria:

1. Consideration of State and Grand Canyon National Park management objectives for the Grand Canyon.
2. Contribution to coordinated community development.
3. Social and economic impacts on other communities dependent on Grand Canyon tourism.
4. Support of the Coconino County Planning and Zoning Commission with necessary zoning changes.
5. Forest Service and Coconino County review of detailed development plans submitted by the proponent as part of the land exchange proposal.

J14 LAND EXCHANGE - CASH EQUALIZATION

J17 LAND SALES, GRANTS AND SELECTIONS

J18 RIGHTS-OF-WAY ACQUISITION

Aquire the following rights-of-way:

1. Apex, FR 335, .5 miles.
2. Griffen, FR 335, 1.2 miles.
3. Supai Village, FR 328, 1.0 miles.
4. Long Jim, FR 605A, .15 miles.
5. Harbison Bloody, FR 305B, .1 miles.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Facilities Management

Work Activity and Standard and Guideline

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORY

L02 ARTERIAL ROAD PRECONSTRUCTION

Design arterial roads at traffic service level C or B.

L03 ARTERIAL ROAD CONSTRUCTION ENGINEERING

L05 ARTERIAL ROAD RECONSTRUCTION

L06 COLLECTOR ROAD PRECONSTRUCTION

Design collector roads at traffic service level C or B.

L07 COLLECTOR ROAD CONSTRUCTION ENGINEERING

L09 COLLECTOR ROAD RECONSTRUCTION

L19 ROAD OPERATION

Road maintenance standards are:

1. Maintain commensurate share roads for intended commercial use.
2. Maintain local roads, closed to traffic, at maintenance level 1.
3. Maintain local service roads, open to traffic, at maintenance level 2.
4. Maintain local service roads to dispersed recreation sites at maintenance level 3 or higher.
5. Maintain signs to meet safety requirements.
6. Maintain arterial and collector roads at maintenance level 4 or 5.

L24 FA & O CONSTRUCTION/RECONSTRUCTION

L25 FA & O FACILITIES MAINTENANCE

L46 POTABLE WATER SYSTEM ADMINISTRATION AND MANAGEMENT

L47 WASTEWATER SYSTEM ADMINISTRATION AND MANAGEMENT

P11 TREATMENT OF ACTIVITY FUELS

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Minimize fire fighting costs.
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. The maximum average annual burned area is 3,825 acres.
5. The maximum fire size objective is 200 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

The initial response objective is to economically confine all fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed the size objective are considered escaped and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA will consider at least the following:

1. The resource management emphasis of threatened management areas.
2. Suppression costs commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Confinement of fires to the woodland vegetation.
7. Size objectives based on continuous area of high intensity burn.
8. Impacts on cultural resources.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 10: 78,464 ACRES

This management area is located in the central section of the Tusayan Ranger District. It is an elevated plain with numerous drainage systems. Elevations range from 6,700 feet to 6,900 feet. Drainage systems are well-defined and flows are ephemeral.

Soils, climate and vegetation: Forty-six percent of the soils in this management area are very shallow and very poorly suited to management actions; forty percent are typically moderately deep and well suited to management actions; and the remaining 14 percent are shallow to moderately deep and not well suited to management actions. Soil and water problems in this area are unsatisfactory watershed condition, soil erosion, and loss of soil productivity. Approximately eight percent of the area is in unsatisfactory watershed condition. Unneeded system roads and poorly constructed roads contribute to accelerated sedimentation.

The climate of this area is characterized by dry spring and fall seasons. The average annual precipitation is approximately 18 inches. Normally the driest months are May and June with the wettest being July and August. Distribution of precipitation is about equal between summer and winter months.

Ponderosa pine vegetation makes up the majority of this management area. Gambel oak is scattered throughout as an understory component. Ponderosa pine is the dominant species, but pinyon pine and Utah juniper comprise a substantial component of the vegetative type. Big sagebrush, snakeweed, blue grama, mutton bluegrass, mountain muhly, and junegrass are the predominant forage species.

There are 59,329 acres of tentatively suitable timberland in the management area: 25 percent is seedlings and saplings; 36 percent is poletimber; 14 percent is immature sawtimber; 6 percent is mature sawtimber; and 19 percent is sparse timber. In addition there are 12,135 acres of not-suitable ponderosa pine timberland. There are also 6,898 acres of pinyon-juniper vegetative type with scattered ponderosa pine trees. Four percent of the suitable timber stands are infected with dwarf mistletoe; the trend is increasing incidence and severity of dwarf mistletoe.

Timber management problems are condition class distribution, stand stocking levels, diversity and distribution of timber stands, and natural regeneration on marginal sites.

Wildlife: This area provides a major portion of elk calving, deer and pronghorn antelope fawning, and turkey nesting habitat in the Tusayan District. The lack of water is the major adverse factor affecting the population and distribution of big game animals. Graminoid openings have been converted from perennial grass to sagebrush and rubber rabbitbrush; snag densities and old-growth habitats are deficit in this area. The area has a high road density and many are located in drainage bottoms. There is suitable habitat for Chrysothamnus molestus in the area. The only fishery in the area is Russell Tank.

The management indicator species are elk, turkey, mule deer, goshawk, pygmy nuthatch, hairy woodpecker, pronghorn antelope, and plain titmouse.

Minerals: The management area has moderate to high potential for uranium. The Canyon Mine deposit is in the area and additional discoveries are possible. Exploration of uranium prospects throughout the area is expected to continue. Copper and other base and precious metals may be found in association with uranium deposits.

The area has low to moderate potential for oil and gas. Oil and gas lease applications have been received for large portions of the area. Oil and gas prospecting activities, and possibly exploration proposals, are likely to continue.

Landownership management: The unit contains one classified electronic site for constant broadcast facilities. The demand for the designation of an electronic site to accomodate low power communication facilities is expected to increase with community and industrial growth in the area.

Visual resources: Visual quality objectives for the unit allow resource management activities to dominate the characteristic landscape.

Cultural resources: The management area contains high densities of cultural resource sites. Most of the area classified as suitable timberland has been inventoried for cultural resource sites. Inventoried cultural resource sites have not been evaluated for final disposition.

Recreation: Recreation use within the unit is generally low, although there are several areas of concentrated use. Inspection and maintenance of popular sites is necessary to preserve the natural setting of these areas and prevent resource damage. There are opportunities for constructing additional dispersed recreation facilities in the unit. The predominate ROS class is RN.

Range: Most of the area is grazed by cattle from late spring until fall. There are 61,345 acres of full capacity range, of which 46,303 acres are in satisfactory condition and 15,042 acres are in unsatisfactory condition. Permitted grazing use is not in balance with grazing capacity. Actual livestock use has been variable and significantly less than permitted. Reliable water sources are inadequate. Proper distribution of livestock is difficult to obtain due to the lack of water. Forage production varies widely in association with shrubs and trees. There are opportunities to increase forage production through fuelwood cutting, timber harvest and seeding. The development and maintenance of range improvements such as water developments, fencing, and forage improvements are necessary to disperse livestock use and maintain grazing capacity.

Facilities: Access to this area is via FDR 301, 302, 310, 320, and 688. FDR 302 is surfaced for 10 miles and provides all-weather access. FRD 301, 320 and 688 are surfaced with native material and provide dry-weather access. The local road systsem provides additional dry-weather access for forest protection, resource utilization and management, and access to private land. There are 260 miles of local roads in the area with a local road density of 2.13 miles per square mile.

Grandview lookout and cabin are located in the area and are maintained for fire detection.

Fire Management: The fuels profile in this area is variable with much of the area not conducive to high intensity fires. There is a sufficient amount of land in this management area with the potential for high intensity fires to warrant a moderately-high protection emphasis. The opportunity exists to relax protection standards for low intensity fires. The application of a relaxed standard is complex because of the variability in the fuels and resource damage potential.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 10

Management emphasis: Provide for high level of management for dispersed recreation (including visual resources); high level of investment for soil and water improvement; low-moderate level of investment for wildlife habitat improvement; moderate level of management for facilities and landownership; and low-moderate level of management for timber, range, and minerals.

Table 47. Land Classification in Management Area 10 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	102
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	102
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	6,898
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	6,898
3. Forested land physically not-suitable	12,135
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	59,329
b. Suitable timberland not-appropriate for timber production	13,175
c. Suitable timberland appropriate for timber production	46,154
Total timberland suitable for timber production	46,154
Total forested land	78,362
Total non-forested land	102
Total forested land not-suitable for timber production	32,208
Total timberland suitable for timber production	46,154
Total National Forest Land	78,464

Table 48. Vegetative Treatment by Resource Activity in Management Area 10 in Planning Period 1

Resource Activity		Acres
Not-suitable forest land		
Pinyon-juniper woodland		
Seed cutting		0
Range non-structural improvement (seeding)		0
Wildlife non-structural improvement		0
Fuelwood (special cutting)	0	
Burning	0	
Planting and seeding	0	
Soil and watershed improvement (special cutting)		110
Seral grassland		
Wildlife non-structural habitat improvement		0
Range non-structural improvement - retreatment		0
Coniferous forest		
Wildlife non-structural improvement		3,150
Aspen (special cutting)	0	
Brush treatment	350	
Burning	800	
Planting and seeding	2,000	
Suitable timberland		
Coniferous forest		
Site preparation		578
Precommercial thinning		2,885
Intermediate harvest		1,035
Range non-structural improvement (seeding)		1,035
Seed cutting		578
Final removal cutting		9,617
Wildlife non-structural improvement		2,860
Burning	1,690	
Planting and seeding	1,170	

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Use traffic counts, trail counts, and visitor registration systems to determine dispersed recreation use (RIM reliability class 4). Use visitor counts and length of stay data to determine use of popular dispersed facilities and areas (RIM reliability class 3). Update ROS inventory and classifications at 5-year intervals beginning in 1990. Monitor ORV use with scheduled patrols and revise the ORV plan to prevent resource damage and user conflicts. Prepare district recreation operation and maintenance plans annually for dispersed areas. Revise district dispersed recreation opportunity guides as necessary.

Prepare viewshed corridor plans for all sensitivity level 1 travel routes.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab Nationsal Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey

priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:
1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the Kaibab National Forest in planning period 1.

Inventory the existing visual condition (EVC) and visual absorption capability (VAC) of the landscape during planning period 1.

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENT

Protect all cultural resource sites located in project areas through avoidance. Evaluate all sites for National Register eligibility on a priority basis. Priority is based upon preliminary indications of relative significance.

A06 FACILITY AND SITE CONSTRUCTION

Construct water developments, one single dual toilet, signing, clearing, spot surfacing, road drainage, and improvement of immediate access roads at the following locations in planning period 1:

Name	Legal Description
Lockett Lake	T30N, R4E, S35
Russel Tank	T29N, R5E, S29

A07 FACILITY AND SITE MANAGEMENT

Provide information services at district offices during the recreation season. Prepare and distribute news releases regularly on dispersed and developed recreation opportunities. Prepare and publish brochures for specific dispersed recreation facilities including hiking trails, scenic vista points and water developments.

A08 USE ADMINISTRATION

Operate and maintain heavily used areas and facilities to standard service management by providing regular scheduled patrols throughout the recreation season. Provide control measures for areas where the following resource damage occurs: (1) soil compaction, (2) loss of vegetative cover, (3) tree damage and mortality, and (4) deterioration of water quality.

Visitor occupancy is restricted to 14 days in any 30-day period.

Maintain area camping closures around developed sites.

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Inspect dispersed recreation trails annually. Maintain trails to maintenance level 2 (as defined in FSH 1309.11a 1986-1990). Correct public safety hazards.

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species, and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

Survey and evaluate assessment areas during project design and plan projects to achieve the following habitat objectives:

Provide forage cover ratios between 40:60 to 60:40.

Snags:
1. Ponderosa pine: not less than 180 snags, 14 inches and larger DBH and 15 feet in height, per 100 acres over 65 percent of the forested area.
2. Pinyon-juniper: not less than 100 snags, 9 inches and larger DRC and 12 feet in height, per 100 acres over 65 percent of the forested area.

Achieve snag habitat objectives based on the specific needs of the area through the use of the following practices by priority:
1. Protect and retain existing snags.
2. Intensively manage to meet habitat objectives on snag management emphasis areas(forest opening edges, water sources).
3. Promote recruitment by:
    a. Retain live disease free cavity trees.
    b. Retain culls and damaged trees.
4. Induce mortality
    a. Kill diseased trees.
    b. Kill healthy trees.

Turkey habitat:
1. Provide for not less than four turkey roost tree-groups per section in turkey winter range and not less than two turkey roost tree-groups per section in turkey summer range.
2. Emphasize turkey winter habitat in areas within 40 chains of pine stringers. (Pine stringers are defined as non-contiguous, linear communities of predominately ponderosa pine, up to 40 chains in width, that extend into the pinyon-juniper woodland below the typical elevational distribution of ponderosa pine).
3. Provide for a minimum of one cover structure per two acres within 40 chains of water for turkey nesting cover. Prohibit logging activities from April 15 to July 1 to protect nesting areas.

Peregrine falcon habitat:
1. Prohibit activities which disturb nesting birds in the vicinity of essential nesting habitat from March 15 to August 15. This period can be extended if the birds remain strongly attached to nest sites after August 15 .

Spotted owl habitat:
1. Maintain 300 acres of contiguous core area habitat in occupied nest territory.
2. Maintain existing old-growth and down-woody material in each core area.

Raptor habitat:
Retain raptor nest tree-groups and a non-activity buffer around raptor nest sites as follows:
1. Goshawk: 8-chain buffer zone around the nest.
2. Cooper's hawk: 7-chain buffer zone around the nest.
3. Sharp-shinned hawk: 6-chain buffer zone around the nest.
4. Others: 3-chain buffer zone around the nest.
5. Protect verified bald eagle winter-roosts with a 5-chain buffer zone around the roost. Prohibit road development in the roost and buffer zone.

Hiding and thermal cover:

1. Provide for hiding and thermal cover in fawning and calving areas. Prohibit logging activities from May 15 to July 1.
2. Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.
3. Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Areas allocated for hiding cover will be not less than 10 chains in width.

Old-growth stands:

Allocate coniferous forest timber stands for old-growth habitats as specified in Table 49 and the following guidelines.

Table 49. Allocation of Coniferous Forest Stands in Management Area 10 for Old-Growth Habitat

	Acres
Suitable timberland allocated to extended rotations for old-growth habitat:	
1. Seedling and sapling	5,432
2. Poletimber	5,432
3. Immature sawtimber	226
4. Mature sawtimber	226
Unsuitable timberland allocated to old-growth habitat:	3,033
Total	14,349

1. Stand size is not less than 100 acres and five chains in width.
2. Stands allocated and selected for old-growth habitats will be well-distributed across the management area.
3. Any stand selected for old-growth habitat will be taken from the best stands in the assessment area. Criteria for defining best stands is developed from current biological literature.
4. Ponderosa pine:
   a. (1) Not less than 1,400 trees, 20 inches DBH or larger, per 100 acres on sites with an index greater than 54.
      (2) Not less than 1,400 trees, 14 inches DBH or larger, per 100 acres on sites with an index less than 54.
   b. Two stories with 60 square feet of basal area in the understory.
   c. Not less than 180 snags, 14 inches DBH and larger and 15 feet in height, per 100 acres.
   d. Not less than two down trees, 12 inches and larger in diameter and 16 feet or more in length, per acre.
5. Provide for the perpetuation of certain, mature or overmature ponderosa pine (yellow pine) stands that do not have either a two-storied vegetative condition or down-woody material. These stands possess late seral characteristics and it is desirable to maintain their open condition.
6. Pinyon-juniper:
   a. Stand size of 100 to 300 acres and 5 chains or greater in width.
   b. Not less than 3000 trees, 9 inches DRC or larger, per 100 acres.
   c. Not less than 100 snags, 9 inches DRC or larger, per 100 acres.
   d. Not less than two down trees, 9 inches in diameter or larger and 10 feet in length, per acre.

C02 NON-STRUCTURAL HABITAT IMPROVEMENT.

Do non-structural wildlife habitat improvements in accordance with Table 48 and the following guidelines using special cutting, burning, seeding, and planting:

Areas needing additional forage for elk and mule deer are given priority in scheduling fuelwood wildlife habitat improvement. Treatments are usually done in areas removed from disturbance to maximize habitat effectiveness. Provide for at least 40 percent cover. Emphasize cover in travelways, bedding areas, reproductive areas, and areas adjacent to water sources and openings. Manage cover areas to provide at least 60 percent crown cover and be at least 10 chains in width.

Pinyon-juniper woodland:

1. Opening is not larger than 40 acres.
2. The maximum width of the opening is 10 chains.
3. The maximum sight distance within the opening is 15 chains.

4. The minimum distance between any two openings is 10 chains.
5. Retreat these areas by burning and seeding at 30-year intervals.
6. Exclude livestock in the treated area for not less than two growing seasons.

Gambel oak:
1. Manage Gambel oak for increased hard mast production, cavities, and deciduous forage volume to promote and enhance wildlife habitat.
2. Retain all standing oak trees eight inches and larger at DBH.

Sagebrush:
1. Burn drainage bottoms dominated by sagebrush.

Visual resource management standards to meet partial retention visual quality objective for corridors along FDR 301, 302, 310, 311, and 320 are:
1. Stand size is two to 40 acres in the woodland and 10 to 50 acres in the coniferous forest.
2. Span of stand along the corridor is not to exceed ten chains.
3. Provide for total cleanup of activity slash within one year of treatment.
4. Created opening is not to exceed four acres in the coniferous forest.

C03 STRUCTURAL HABITAT IMPROVEMENT

Do structural habitat improvement in accordance with the following guidelines:
1. Install protective fences, watering structures, brush piles, road closure devices, nesting structures, pothole developments, and kill trees to improve snag distribution.

2. Structural habitat improvement	structures
a. Wetland improvements: (waterfowl nesting islands, potholes)	0
b. Aquatic improvements: (earthen tank construction)	10
c. Water developments: (springs, guzzlers, trick tanks)	20

3. Prevent livestock access to 70 percent of the shoreline of the stock tanks that have stable water levels. Fence up to five acres and seed to low height cover species.
4. Provide for one permanent water source per square mile.
5. Install structures to recharge wet meadows and riparian areas.
6. Construct, improve, and, or stabilize lakes to improve lake habitat for desirable fish species.

P11 TREATMENT OF ACTIVITY FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 65 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at level B. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan. Revise allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment re-analysis every 10 years on allotments where management has not corrected downward trends and changes in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 50 percent of the allotments. Conduct allotment re-analysis every 25 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments as having become a problem. At 15-year intervals, conduct production-utilization surveys.

Riparian vegetation:

1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing and add new structural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Inspect 50 percent of the allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES

Complete forest inventory on 78,464 acres and revise on a 10-year cycle.

E01 REGENERATION HARVEST (CONIFEROUS STANDS)

Apply even-age management in accordance with Table 48 and the following guidelines:

1. Stand size: minimum 10 acres, maximum 60 acres, and typical 30 acres.
2. Regenerate stands that have reached CMAI (culmination of mean annual increment) and have a stand DMR (dwarf mistletoe rating) of 2.1 or greater using the clearcutting method and planting.
3. Regenerate stands that have reached CMAI and have a stand DMR of 2.0 or less using the shelterwood seed cut. Reduce stand density to 30 GSL.
4. Do not make a seed cut in any stand adjacent to a seedling stand, sapling stand, or a stand in regeneration.
5. Make final removal harvests after stands classified as "in regeneration" are certified as satisfactorily stocked as specified under E04 Reforestation, below. Leave no live trees infected with dwarf mistletoe for potential snags.
6. Do not cut any tree larger than 42 inches DBH.

E02 INTERMEDIATE HARVEST (CONIFEROUS STANDS)

Make intermediate harvests as specified in Table 48, Table 50 and the following guidelines:

Table 50. Acres of Intermediate Harvest in Management Area 10 in Planning Period 1

Growing Stock Level	Seedling-Sapling	Poletimber	Immature Sawtimber	Mature Sawtimber
60	0	0	0	1,035
90	0	0	0	0
Total Acres	0	0	0	1,035

1. Stand size: minimum 10 acres, maximum 60 acres, typical 30 acres.
2. Make intermediate harvests to specified growing stock levels (GSL) in stands with a DMR of 2.0 or less.
3. Complete logging activities and slash treatment in one season to control Ips beetle populations.
4. Maximize utilization of all trees cut during intermediate harvests.
5. Do not cut any tree larger than 42 inches DBH.

E03 SILVICULTURAL EXAMINATION AND PRESCRIPTION

Complete stand delineation, mapping, vegetative and condition class typing, and acreage assignment for all lands in the management area. Maintain EDP stand information system. Apply standards and guidelines on an assessment area basis (approximately 10,000 acres), rather than on an individual timber sale basis, to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

E04 REFORESTATION

1. Prepare forest floor for regeneration, following seed cutting, with broadcast burning or other means, prior to first good cone-crop.
2. Make stocking surveys four and seven years following site preparation.
3. Make plantation survival surveys one, three, and five years following planting.
4. Satisfactory stocking is 120 to 350 trees per acre depending on, species, site class, and management objectives (Reference: FSM 2470).
5. Protect plantations until seedlings are established and assign no grazing capacity.

E05 TIMBER STAND IMPROVEMENT

Make precommercial thinning in sapling stands as specified in Table 48 and the following guidelines:

1. Complete timber stand improvement evaluation survey within one year following treatment.
2. Limit cutting to July through December in areas where Ips bark beetle problems are likely to occur.
3. Complete logging activities and slash treatment in one season to control Ips beetle populations.
4. Maximize utilization of all trees cut during intermediate harvests.

E06 TIMBER SALE PREPARATION

Make commercial timber, commercial and personal-use fuelwood, and miscellaneous forest product sales in accordance with Table 48, Table 50, and the standards and guidelines for E01 Regeneration Harvest (Coniferous stands), E02 Intermediate Harvest (Coniferous stands) and F03 Improvement. Make coniferous residue from commercial sale areas available for personal-use fuelwood.

Utilization standards:

1. Sawtimber: 9-inch d.b.h. + to 6-inch d.i.b. top.
2. Topwood: 6-inch d.i.b. to 4-inch d.i.b.
3. Pulpwood: 5-inch d.b.h. + to 4-inch d.i.b. top.
4. Fuelwood: Sizes vary by objectives.

Visual resource management standards to meet partial retention visual quality objective for FDR 301, 302, 310, 311, and 320 are:

1. Provide for following condition class distribution within visual management corridors:
    - a. Seedling and sapling: 10 to 30 percent
    - b. Immature poletimber and sawtimber: 20 to 40 percent
    - c. Mature sawtimber: 40 to 60 percent
2. Stand size is two to 40 acres.
3. Span of stand along corridor is not to exceed ten chains.
4. Total cleanup of activity slash within one year of treatment.
5. Maintain existing overstory species composition of stands within corridor.
6. Created opening is not to exceed four acres in coniferous forest.

E07 TIMBER HARVEST ADMINISTRATION

Administer contracts, commercial and personal-use permits for fuelwood and miscellaneous forest products. This includes accountability, financial management, field inspections, and contract interpretation and enforcement. Close local roads until the next entry by signing and physical obstructions such as gates or barriers. Obliterate temporary roads and return them to production. Impose temporary ORV restrictions until revegetated.

E08 NURSERY MANAGEMENT

Maintain 10-year supply of seed from each zone for each species.

E09 GENETIC TREE IMPROVEMENT PROGRAM

Implement forest and Southwestern Region tree improvement plan, level 4 - ponderose pine.

D03 RANGE NON-STRUCTURAL IMPROVEMENT

Seed stands, thinned to GSL of 60 or less and have a forage production rating of moderate or high, to forage species following intermediate cutting as specified in Table 48 and Table 50.

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORIES

L10 LOCAL ROAD PRECONSTRUCTION

L11 LOCAL ROAD CONSTRUCTION ENGINEERING

L14 TIMBER PURCHASER ROAD CONSTRUCTION

L19 ROAD OPERATION AND MAINTENANCE

P11 TREATMENT OF ACTIVITY CREATED FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 65 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) in 1987; complete watershed condition inventories in 1990.

F02 PLANNING

Develope watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process in 1995.

F03 IMPROVEMENT

Implement land treatment and structural measures as specified in Table 48 and in accordance with the following guidelines. Land treatment measures are (1) closure and revegetation of 7 acres of system roads identified for obliteration in the transportation inventory; and (2) 110 acres of ground cover improvements in the following soil mapping units: 12, 16, 17, 18, 19, 27, 30, 40, 250, 251, 255, 257, 258, 260, 261, 502, and 503.

1. Created opening is not larger than 40 acres.
2. Maximum width of the opening is 10 chains.
3. Maximum sight distance within the opening is 15 chains.
4. Minimum distance between any two openings is 10 chains.
5. Visual resource management standards to meet partial retention visual quality objective for FDR 301, 302, 310, 311 and 320 are:
   a. Stand size is 2 to 40 acres.
   b. Span of stand along corridor is not to exceed ten chains.
   c. Complete cleanup of activity slash within one year of treatment.
   d. Created openings are not larger than four acres in the coniferous forest.
6. Exclude livestock from treated areas for not less than two growing seasons.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined (after problem assessment, examination of the alternatives and appropriate review by local or State agencies and public participation) to be the most effective practicable means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatible with water quality goals. These practices are involved in activities affecting the Forest and grassland source and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Stream courses will be designated within timber sales to protect watershed values. This protection will include controls on skidding within riparian areas and along or across designated stream courses.
3. Rehabilitation will be applied when needed to minimize loss of site productivity following activities or wildfire.

F05 RESOURCE INVENTORY REPORTS

Complete TES report in FY 1987.

F07 RIGHTS/USE MANAGEMENT

Obtain water rights before developing new waters. Annually update the forest water uses, requirements and rights inventory.

P11 TREATMENT OF ACTIVITY FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 50 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

RESOURCE MANAGEMENT PRACTICE: Minerals Management

Work Activity and Standard and Guideline

J04 WITHDRAWALS, MODIFICATIONS AND REVOCATIONS

Withdraw the following areas to locatable mineral entry:

1. Russell Lake; T29N,R5E,S29; 160 acres.
2. Cultural resource sites with National Register status.

G03 PROCESSING OF EXPLORATION PROPOSALS

Impose operating constraints on leasable and locatable mineral prospecting and exploration activities in or adjacent to the following wildlife habitat components:

Habitat Component and Area of Restriction	Restriction	Approximate Season of Restriction
Within 20 chains of calving and fawning areas.	No surface disturbance or occupancy	April to June
Within 20 chains of raptor nesting sites and 40 chains of permanent water sources.	No surface disturbance or occupancy	April to July

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and "limited surface use stipulations" to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special use sites.	Areas of large capital investments. Yearlong, for the effective term of lease.	No surface disturbing activities.
Soil map units with slopes 15 percent or greater.	Areas with moderate to high erosion potential. Yearlong, for the effective term of the lease.	Special mitigation measures required for surface disturbing activities.
Within 10 chains of all sites listed on National Register.	Protection of historic values. Yearlong, for the effective term of the lease.	No surface disturbance or occupancy.
Tree plantations.	Areas of large capital investments. Yearlong, for the effective term of the lease.	Replanting of areas impacted by surface disturbing activities required at cessation of project.
Individual colonies of T&E and sensitive plants.	Limited plant populations require protection. Yearlong, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within one mile of T&E raptor nest sites.	Nesting activities highly susceptible to disturbance. March to July, annually, for the effective term of the lease.	No surface disturbance or occupancy.
Within 20 chains of raptor nest sites and 40 chains of permanent waters.	Nesting activities highly susceptible to disturbance. April to July, annually for the term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of calving and fawning areas.	Calving and fawning activities highly susceptible to disturbance. April to June, annually for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of permanent water sources.	Allow unrestricted access to water sources. Yearlong, for the effective term of the lease.	No surface disturbing activities or occupancy.

Discontinue common variety mineral material disposals from existing sources, rehabilitate existing material pits, and prevent development of potential sites located in:

1. Within 20 chains of turkey and raptor nest sites, calving and fawning areas and permanent water sources.
2. Areas with semi-primitive or semi-primitive motorized ROS classifications.
3. Areas with retention visual quality objectives.

G05 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral development based on:

1. Integration with other resource management uses.
2. Avoidance of wildlife habitats including calving and fawning areas, primary big game foraging and cover areas, turkey nesting and roost areas, and important aquatic habitats.
3. Impacts on visual quality objectives.
4. Impacts on areas of concentrated recreation use.

5. Avoidance of areas with ROS classifications of semi-primitive and semi-primitive motorized.

F01 SOIL AND WATER RESOURCE INVENTORY

Conduct level 2 soil inventory of mined areas scheduled for restoration.

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

G08 RESERVED AND OUTSTANDING RIGHTS

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT (NON-RECREATION)

Prepare a site management plan and prospectus for the Skinner Ridge electronic site located in T29N, R4E, SE 1/4 Section 7. Electronic uses are restricted to low power communication facilities.

Electronic site permittees shall comply with technical standards and development provisions of site management plans. Site authorizations are restricted to those types of electronic installations specified in site management plans. The following standards and guidelines apply to all classified electronic sites:

1. Maximize the number of compatible electronic uses on a minimum site area. If a proposed use can be accomodated on a site, but is incompatible with installations in existing buildings, additional buildings may be authorized. Additional buildings are subject to the same joint-use stipulations that apply to existing structures. The Forest Service reserves the right to issue a prospectus for the construction of any building on site.
2. Each non-exclusive permit reserves the right of the Forest Service to authorize other uses on the site, building, or antenna structures of the holder provided that such use does not interfere with holder's operations. Permittee improvements so used are entitled to reasonable compensation.
3. The Forest Service determines the combination of joint occupants, location of permittee improvements on site and the compatibility of users. Each proposed use is evaluated based on consideration of its impact on existing uses, potential future uses and demonstrated need.
4. A separate authorization must be issued for each electronic user.
5. Access development, improvement and maintenance shall be borne by a permittee or permittee association and must be authorized by a separate permit.
6. A Federal Communications Commission (FCC) license is required for all non-federal government permittees. Authority for enforcing the terms of an FCC license is vested in the FCC. Applicants are responsible for resolving interference problems with existing users. Within the terms of special-use permits and applicable regulations, the Forest Service reserves the right to determine which special-use permits or proposals must be terminated or denied when interference problems cannot be resolved.
7. Buildings and antennas are subject to painting, design and location requirements imposed by the Forest Service to meet visual quality objectives.
8. Permittees are required to organize and be members of a site users association.

J02 RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS

Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees and termination dates. Adjust fees based on fair market values at five year intervals or when permits or grants are re-issued. Update land use reporting system during annual file reviews.

J05 LAND STATUS MAINTENANCE

Make initial land status entries when special use permits and right-of-way grants are issued or amended and when land conveyance cases are completed.

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

J09 OTHER LAND TITLE CLAIMS MANAGEMENT

J10 ENCROACHMENT

J11 LANDOWNERSHIP PLANNING

J12 LAND ADJUSTMENT PLANNING

J13 LAND EXCHANGE

On lands designated as base-in-exchange:

1. Limit capital investments in range structural or non-structural improvements, recreation improvements, administrative improvements, or timber stand improvements, etc, to those that can be amortized during the anticipated period of continued government ownership.
2. Design cultural practices, such as timber sales, to protect or enhance real estate values by modifying marking prescriptions to retain a component of mature trees, ensuring timely disposal of activity slash and in designing location of permanent roads.
3. Avoid, where possible, the location of encumbering special uses that detrimentally effect real estate values and, where possible, locate those that must be accomodated in a manner to minimize impacts to the value of real estate.

J14 LAND EXCHANGE - CASH EQUALIZATION

J17 LAND SALES, GRANTS AND SELECTIONS

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Facilities Management

Work Activity and Standard and Guideline

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORY

L02 ARTERIAL ROAD PRECONSTRUCTION

Design arterial roads at traffic service level B.

L03 ARTERIAL ROAD CONSTRUCTION ENGINEERING

L05 ARTERIAL ROAD RECONSTRUCTION

L06 COLLECTOR ROAD PRECONSTRUCTION

Design collector roads at traffic service level B.

L07 COLLECTOR ROAD CONSTRUCTION ENGINEERING

L09 COLLECTOR ROAD RECONSTRUCTION

L19 ROAD OPERATION

Road maintenance standards are:

1. Maintain commensurate share roads for intended commercial use.
2. Maintain local roads, closed to traffic, at maintenance level 1.
3. Maintain local service roads, open to traffic, to at least a maintenance level 2.
4. Maintain arterial and collector roads at maintenance level 4 or 5.

5. Maintain signs with routine maintenance and replacement schedule based on inventory and field inspection.
6. Maintain local service roads with more than 50 ADT at maintenance level 3.

L24 FA & O CONSTRUCTION/RECONSTRUCTION

L25 FA & O FACILITIES MAINTENANCE

L28 DAM ADMINISTRATION AND MANAGEMENT

L46 POTABLE WATER SYSTEM ADMINISTRATION AND MANAGEMENT

L47 WASTEWATER SYSTEM ADMINISTRATION AND MANAGEMENT

P11 TREATMENT OF ACTIVITY FUELS

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Minimize fire fighting costs on low intensity fires (less than 200 btu/ft/sec). Minimize acreage burned by high intensity fires (200+ btu/ft/sec).
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. The maximum average annual burned area objective is 40 acres.
5. The maximum fire size objective is 20 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

Direct attack and control all high intensity fires; Economically contain low intensity fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed size objective are considered escaped fires and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA considers at least the following:

1. Resource management emphasis of threatened management areas.
2. Suppression cost commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Potential resource loss.
7. Elapsed time for vegetative recovery.
8. Impacts on cultural resources.

P12 TREATMENT OF NATURAL FUELS

Maintain existing fuelbreaks and fuel reduction corridors.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 11: 48,254 ACRES

This management area includes the Buffalo Ranch and the extreme eastern side of the North Kaibab Ranger District. It includes portions of the Coyote Wash and Houserock-Marble watersheds. It is a elevated plain dissected by numerous drainages. Elevations range from 5,200 feet to 6,800 feet.

Fifty-seven percent of the soils in this management area moderately deep and are well-suited for management actions; 39 percent are shallow or very shallow and are poorly suited for management actions; and four percent are moderately deep and are very well-suited for management actions.

Soil and water management problems are unsatisfactory watershed condition, soil erosion, and loss of soil productivity. Approximately 52 percent of the area is in unsatisfactory watershed condition. Unneeded system roads and poorly constructed and maintained roads contribute to sedimentation and impact water quality.

The climate of this management is warm temperate. Precipitation ranges from 14 to 18 inches per year. Winter precipitation accounts for more than half of the annual total. The majority of this area is dominated by woodland vegetation. The tree component is largely pinyon pine and Utah juniper although at higher elevations Gambel oak is present. The understory includes big sagebrush, snakeweed and rubber rabbitbrush. Impacted range sites are dominated by blue grama although squirreltail, junegrass, Indian ricegrass and mutton bluegrass are present on the better sites.

Wildlife: The area provides critical winter range for mule deer. This unit provides year-long habitat for antelope and for a bison herd of about 100 head. The North Kaibab deer herd is intensively managed and is of state and regional importance. The southern portion of this management area is situated adjacent to the Saddle Mountain Wilderness Area; approximately 70 percent of this management area is in the Grand Canyon National Game Preserve. The sensitive plant, Paredines plains cactus, exists on the east side of the area.

The management indicator species are mule deer, plain titmouse, pronghorn antelope, turkey and pygmy nuthatch.

Minerals: The management area has moderate potential for uranium; however only that portion of the area not in the Grand Canyon National Game Preserve is open to entry under the mining laws. The area has low to moderate potential for oil and gas. Oil and gas prospecting activities have occurred in the southern portion of the area.

Visual resources: The corridor along Highway 89A is visually sensitive and management activities within the corridor are visually subordinate to the characteristic landscape.

Cultural resources: The area contains densities of cultural resource sites varying from low to high; however less than two percent of the area has been inventoried for cultural resource sites. Little is known about their distribution and significance.

Recreation: Recreation use within the area is low. Moderate use occurs along roads that access points overlooking the Grand Canyon. Several of these roads also access trail heads which provide access to Saddle Mountain Wilderness Area. There are opportunities for improving access and interpretive facilities associated with these scenic vistas and wilderness trail heads.

All of this area is classified as semi-primitive motorized (SPM).

Range: Shrub-grasslands and pinyon-juniper understory forage provide grazing capacity for cattle and bison. Cattle graze portions of the area seasonally during the summer and winter. The management area includes most of the year-long bison range in House Rock Valley. Permitted grazing use is within the estimated grazing capacity. There are 40,306 acres of full capacity range, of which 6,027 acres are in satisfactory condition, and 34,279 acres are in unsatisfactory condition. Forage improvement treatments have been made; these treated areas are invaded by pinyon-juniper and big sagebrush. Structural improvements, such as cattleguards, fences and water developments and forage improvements require maintenance and replacement to maintain grazing capacity.

Facilities: Access to this area is via Highway 89A and FDR 445. FDR 445 and the local road system, provides dry-weather access for forest protection, resource utilization, and resource management. There are approximately 60 miles of local roads in the area with a local road density of 0.80 miles per square mile.

Fire Management: The fuel profile is not conducive to large, high intensity fires. The potential for resource damage is very low and most fires are more beneficial than damaging. An opportunity exists to significantly reduce protection costs without serious damage to the resources.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 11

Management emphasis: Provide for moderate level of management for dispersed recreation, minerals, and fire; low-moderate level of investment for wildlife habitat improvement; low-moderate level of management for landownership and facilities; low level of management for soil and water improvement and range; and no commercial timber harvesting and fuelwood management. Recognize game preserve status and extend special consideration for wildlife values in resource decision-making.

Table 51. Land Classification in Management Area 11 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	33,711
2. Seral grassland	0
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	33,711
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	14,476
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	14,476
3. Forested land physically not-suitable	67
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	0
b. Suitable timberland not-appropriate for timber production	0
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	14,543
Total non-forested land	33,711
Total forested land not-suitable for timber production	67
Total timberland suitable for timber production	0
Total National Forest Land	48,254

Table 52. Vegetative Treatment by Resource Activity in Management Area 11 in Planning Period 1

Resource Activity		Acres
Not-suitable forest land		
Pinyon-juniper woodland		
Seed cutting		0
Range non-structural improvement (seeding)		0
Wildlife non-structural improvement		6,460
Fuelwood (special cutting)	0	
Burning	2,260	
Planting and seeding	4,200	
Soil and watershed improvement (special cutting)		20
Seral grassland		
Wildlife non-structural habitat improvement		190
Range non-structural improvement - retreatment		350
Coniferous forest		
Wildlife non-structural improvement		0
Aspen (special cutting)	0	
Brush treatment	0	
Burning	0	
Planting and seeding	0	
Suitable timberland		
Coniferous forest		
Site preparation		0
Precommercial thinning		0
Intermediate harvest		0
Range non-structural improvement (seeding)		0
Seed cutting		0
Final removal cutting		0
Wildlife non-structural improvement		0
Burning	0	
Planting and seeding	0	

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Use traffic counts, trail counts, and visitor registration systems to determine dispersed recreation use (RIM reliability class 4). Use visitor counts and length of stay data to determine use of popular dispersed facilities and areas (RIM reliability class 3). Update ROS inventory and classifications at 5-year intervals beginning in 1990. Prepare district recreation operation and maintenance plans annually for dispersed areas. Revise district dispersed recreation opportunity guides as necessary.

Prepare viewshed corridor plans for all sensitivity level 1 travel routes.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab Nationeal Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey

priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the Kaibab National Forest in planning period 1.

Inventory existing visual condition (EVC) and visual absorption capability (VAC) of the landscape during planning period 1.

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENT

Protect all cultural resource sites located in project areas through avoidance. Evaluate all sites for National Register eligibility on a priority basis. Priority is based upon preliminary indications of relative significance.

A06 FACILITY AND SITE CONSTRUCTION

Improve road access and construct and post interpretive signing for the Royal Arches vista point in planning period 2.

A07 FACILITY AND SITE MANAGEMENT

Provide information services at district offices during the recreation season. Prepare and distribute news releases regularly on dispersed and developed recreation opportunities. Prepare and publish brochures for specific dispersed recreation facilities.

A08 USE ADMINISTRATION

Operate and maintain heavily used dispersed areas and facilities to standard service management by providing scheduled patrols throughout the recreation season. Provide control measures for areas where the following resource damage occurs: (1) Soil compaction, (2) loss of vegetative cover, (3) tree damage and mortality, and (4) deterioration of water quality.

Visitor occupancy is restricted to 14 days in any 30-day period.

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Inspect dispersed recreation trails annually. Maintain trails to maintenance level 3 or higher (as defined in FSH 1309.11a 1986-1990).

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species, and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

Survey and evaluate assessment areas during project design and plan projects to achieve the following habitat objectives:

Provide forage cover ratios between 40:60 to 60:40.

Snags:
1. Pinyon-juniper: not less than 100 snags, 9 inches and larger DRC and 12 feet in height, per 100 acres over 55 percent of the forested area.

Achieve snag habitat objectives based on the specific needs of the area through the use of the following practices by priority:
1. Protect and retain existing snags.
2. Intensively manage to meet habitat objectives on snag management emphasis areas (forest opening edges, water sources).
3. Promote recruitment by:
   a. Retain live disease-free cavity trees.
   b. Retain culls and damaged trees.
4. Induce mortality
   a. Kill diseased trees.
   b. Kill healthy trees.

Turkey habitat:
1. Provide for not less than four turkey roost tree-groups per section in turkey winter range and not less than two turkey roost tree-groups per section in turkey summer range.
2. Emphasize turkey winter habitat in areas within 40 chains of pine stringers. (Pine stringers are defined as non-contiguous, linear communities of predominately ponderosa pine, up to 40 chains in width, that extend into the pinyon-juniper woodland below the typical elevational distribution of ponderosa pine).

Peregrine falcon habitat:
1. Prohibit activities which disturb nesting birds in the vicinity of essential nesting habitat from March 15 to August 15. This period can be extended if the birds remain strongly attached to nest sites after August 15 .

Spotted owl habitat:
1. Maintain 300 acres of contiguous core area habitat in occupied nest territory.
2. Maintain existing old-growth and down-woody material in each core area.

Raptor habitat:
Retain raptor nest tree-groups and a non-activity buffer around raptor nest sites as follows:
1. Goshawk: 8-chain buffer zone around the nest.
2. Cooper's hawk: 7-chain buffer zone around the nest.
3. Sharp-shinned hawk: 6-chain buffer zone around the nest.
4. Others: 3-chain buffer zone around the nest.
5. Protect verified bald eagle winter-roosts with a 5-chain buffer zone around the roost. Prohibit road development in the roost and buffer zone.

Hiding and thermal cover:
1. Provide for hiding and thermal cover in fawning areas.
2. Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.

3. Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Areas allocated for hiding cover will be not less than 10 chains in width.

Pinyon-juniper old-growth:
1. Stand size of 100 to 300 acres and 5 chains or greater in width.
2. Not less than 3,000 trees, 9 inches DRC or larger, per 100 acres.
3. Not less than 100 snags, 9 inches DRC or larger, per 100 acres.
4. Not less than two down trees, 9 inches in diameter or larger and 10 feet in length, per acre.

Table 53. Allocation of Coniferous Forest Stands in Management Area 11 for Old-Growth Habitat

	Acres
Suitable timberland allocated to extended rotations for old-growth habitat:	
1. Seedling and sapling	0
2. Poletimber	0
3. Immature sawtimber	0
4. Mature sawtimber	0
Unsuitable timberland allocated to old-growth habitat:	0
Total	0

C02 NON-STRUCTURAL HABITAT IMPROVEMENT.

Areas needing additional forage and mule deer are given priority in scheduling fuelwood wildlife habitat improvement. Treatments are usually done in areas removed from disturbance to maximize habitat effectiveness. Provide for at least 40 percent cover. Emphasize cover in travelways, bedding areas, reproductive areas, and areas adjacent to water sources and openings. Manage cover areas to provide at least 60 percent crown cover and be at least 10 chains in width.

Do non-structural wildlife habitat improvement in accordance with Table 52 and the following guidelines using special cutting, burning, seeding, and planting:

Created openings in pinyon-juniper woodland:
1. Opening is not larger than 40 acres.
2. The maximum width of the opening is 10 chains.
3. The maximum sight distance within the opening is 15 chains.
4. The minimum distance between any two openings is 10 chains.
5. Retreat these areas by burning and seeding at 30-year intervals.
6. Exclude livestock from treated areas for not less than two growing seasons.

Sagebrush:
1. Treat by burning.

Visual resource management standards to meet partial retention visual quality objective for Highway 89A are:
1. Stand size is 10 to 30 acres.
2. Span of stand along the corridor is not to exceed ten chains.
3. Provide for total cleanup of activity slash within three months of treatment.

C03 STRUCTURAL HABITAT IMPROVEMENT

Do structural habitat improvement in accordance with the following guidelines:
1. Install protective fences, watering structures, brush piles, road closure devices, nesting structures, pothole developments, and kill trees to improve snag distribution.
2. Prevent livestock access to 70 percent of the shoreline of the stock tanks that have stable water levels. Fence up to five acres and seed to low height cover species.
3. Provide for one permanent water source per square mile.
4. Install structures to promote recharge of wet meadows and riparian areas.

P11 TREATMENT OF ACTIVITY FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 50 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at level B. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan. Revise existing allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment re-analysis every 10 years on allotments where management has not corrected downward trends and changes in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 50 percent of the allotments. Conduct allotment re-analysis every 25 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments as having become a problem. At 15-year intervals, conduct production-utilization surveys.

Riparian vegetation:

1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D03 RANGE NON-STRUCTURAL IMPROVEMENT-RETREATMENTS

Re-treat 350 acres in improved forage areas as specified in Table 52 and in accordance with the following guidelines:

1. The area to be treated is situated on one or more of the following soil mapping units: 8, 17, 23, 30, 32, 250, 251, 263, 264, 272, 273, 280, 632, 633, and 634.
2. Created opening is not larger than 40 acres.
3. Maximum width of any created opening is 10 chains.
4. Maximum sight distance within any created opening is 15 chains.
5. Minimum distance between created openings is 10 chains.
6. Exclude livestock from treated areas for not less than two growing seasons.
7. Visual resource management standards to meet partial retention visual quality objective for Highway 89A are:
   a. Stand size is 10 to 30 acres.
   b. Span of stand along corridor not to exceed ten chains.
   c. Complete cleanup of activity slash within three months of treatment.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing and add new structural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Inspect 50 percent of the allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES

Complete forest inventory on 48,254 acres and revise on a 10-year cycle.

E03 SILVICULTURAL EXAMINATION AND PRESCRIPTION

Complete stand delineation, mapping, vegetative and condition class typing, and acreage assignment for all lands in the management area. Maintain EDP stand information system. Apply standards and guidelines on an assessment area basis (approximately 10,000 acres), rather than on an individual timber sale basis, to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

E06 TIMBER SALE PREPARATION

Make commercial and personal-use fuelwood, and miscellaneous forest product sales in accordance with Table 52 and the standards and guidelines for F03 Improvement.

Utilization standards:
Fuelwood: Sizes vary by objectives.

E07 TIMBER HARVEST ADMINISTRATION

Administer commercial and personal-use permits for fuelwood and miscellaneous forest products. This includes accountability, financial management, field inspections, and contract interpretation and enforcement. Close local roads until the next entry by signing and physical obstructions such as gates or barriers. Obliterate temporary roads and return them to production. Impose temporary ORV restrictions until revegetated.

P11 TREATMENT OF ACTIVITY CREATED FUELS

1. Activity created fuels are treated so that the maximum size objectives can be met under the burning conditions which yielded the historical, 50 percentile rate of spread in fuel model 'K' (National Fire Danger Rating System).
2. Preattack facilities are incorporated into other resource projects.
3. Complete cleanup of activity fuels within three months of treatment along Highway 89A.

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) in 1987; complete watershed condition inventories in 1990.

F02 PLANNING

Develop watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process in 1995.

F03 IMPROVEMENT

Implement land treatment and structural measures as specified in Table 52 and in accordance with the following guidelines. Land treatment measures are (1) closure and revegetation of 90 acres of system roads identified for obliteration in the transportation inventory; and (2) 20 acres of ground cover improvements in the following soil mapping units: 8, 17, 27, 30, 32, 40, 250, 251, 263, 264, 272, 273, 280, 281, 632, and 634 in accordance with the following standards:

1. Created opening is not larger than 40 acres.

2. Maximum width of the opening is 10 chains.
3. Maximum sight distance within the opening is 15 chains.
4. Minimum distance between any two openings is 10 chains.
5. Visual resource management standards to meet partial retention visual quality objective for Highway 89A are:
    a. Stand size is 10 to 30 acres.
    b. Span of stand along corridor is not to exceed ten chains.
    c. Complete cleanup of activity slash within three months of treatment.
6. Exclude livestock from treated areas for not less than two growing seasons.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined [after problem assessment, examination of the alternatives and appropriate review by local or State agencies and public participation] to be the most effective practicable means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatible with water quality goals. These practices are involved in activities effecting the Forest and grassland resource and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Stream courses will be designated within timber sales to protect watershed values. This protection will include no skidding within riparian areas and along or across designated stream courses.
3. Rehabilitation will be applied when needed to minimize loss of site productivity following activities or wildfire.

F05 RESOURCE INVENTORY REPORTS

Complete TES report in FY 1987.

F07 RIGHTS/USE MANAGEMENT

Obtain water rights before developing new waters. Annually update the forest water uses, requirements and rights inventory.

RESOURCE MANAGEMENT PRACTICE: Mineral Management

Work Activity and Standard and Guideline

J04 WITHDRAWALS, MODIFICATIONS, AND REVOCATIONS

Withdraw the following areas to locatable mineral entry:

1. Cultural resource sites with National Register status.

G03 PROCESSING OF EXPLORATION PROPOSALS

Impose operating constraints on leasable and locatable mineral prospecting and exploration activities in or adjacent to the following wildlife habitat components.

Habitat Component and Area of Restriction	Restriction	Approximate Season of Restriction
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	No surface disturbance or occupancy.	April to July

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special-use sites.	Areas of large capital investments Yearlong for the effective term of the lease.	No surface disturbing activities.
Soil map units with slopes of 15 percent or greater.	Areas with moderate to high erosion potential. Yearlong, for the effective term of the lease.	Special mitigation measures required for surface disturbing activities.
Within 10 chains of all sites listed on National Register.	Protection of historic values. Yearlong, for the effective term of the lease.	No surface disturbance or occupancy.
Individual colonies of T&E and sensitive plants.	Limited plant populations require protection. Yearlong, for the effective term of the lease.	No casual uses, surface distrubance or occupancy.
Within one mile of T&E raptor nest sites.	Nesting activities highly susceptible to disturbance. March to July, for the effective term of the lease.	No surface disturbance or occupancy.
10 chain wide corridor and open meadows along Highway 89A and within 20 chains of the rim of the Grand Canyon.	Areas visually sensitive to any alteration. Yearlong, for effective term of the lease.	No surface disturbing activities.
Within 10 chains of developed recreation sites.	Areas visually sensitive to any alteration. May to October for the effective term of the lease.	No surface disturbing activities.
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	Nesting activities highly susceptible to disturbance. April to July, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of permanent water sources.	Allow unrestricted access to water sources. Yearlong for the effective term of the lease.	No surface disturbing activities or occupancy.

Discontinue common variety mineral material disposals from existing sources, rehabilitate existing material pits, and prevent development of potential sites in:

1. Ten chain wide corridor along Highway 89A.
2. Within 20 chains of turkey and raptor nest sites and permanent water sources.
3. Areas with semi-primitive or semi-primitive motorized ROS classifications.

GU5 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral developments based on:

1. Construction, maintenance and hauling costs.
2. Integration with other resource management uses.
3. Monitoring of wildlife impacts and ,or mitigation of habitat loss through habitat improvement projects.
4. Impacts on visual quality objectives.
5. Impacts on areas of concentrated recreation use.

F01 SOIL AND WATER RESOURCE INVENTORY

Conduct level 2 soil inventory of mined areas scheduled for restoration.

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

G08 RESERVED AND OUTSTANDING RIGHTS

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT (NON-RECREATION)

Allow expansion of existing major utility corridors and clearing of new corridors. Attempt to avoid the following areas:

1. Areas with pristine, primitive or semi-primitive ROS classifications.
2. Areas with high cultural resource values.
3. Important wildlife habitat areas.
4. Visually sensitive areas.
5. ORV closure areas.
6. lands classified as suitable timberland.

Provide for joint use in corridors and combine uses to the extent possible in light of technical and environmental constraints.

J02 RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS

Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees and termination dates. Adjust fees based on fair market values at five year intervals or when permits or grants are re-issued. Update Land Use Reporting System during annual file reviews.

J05 LAND STATUS MAINTENANCE

Make initial land status entries when special use permits and right-of-way grants are issued or amended and when land conveyance cases are completed.

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

J11 LANDOWNERSHIP PLANNING

J12 LAND ADJUSTMENT PLANNING

J18 RIGHTS-OF-WAY ACQUISITION

Acquire the following rights-of-way:

1. Houserock-South Canyon, FDR 445, 11.0 miles.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Facilities Management

Work Activity and Standard and Guideline

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORY

L02 ARTERIAL ROAD PRECONSTRUCTION

Design arterial roads at traffic service level C or B.

L03 ARTERIAL ROAD CONSTRUCTION ENGINEERING

L05 ARTERIAL ROAD RECONSTRUCTION

L06 COLLECTOR ROAD PRECONSTRUCTION

Design collector roads at traffic service level C or B.

L07 COLLECTOR ROAD CONSTRUCTION ENGINEERING

L09 COLLECTOR ROAD RECONSTRUCTION

L19 ROAD OPERATION

Road maintenance standards are:

1. Maintain commensurate share roads for intended commercial use.
2. Maintain local roads, closed to traffic, at maintenance level 1.
3. Maintain local service roads, open to traffic, at maintenance level 2.
4. Maintain signs to meet safety requirements.
5. Maintain arterial and collector roads at maintenance level 4 or 5.

P11 TREATMENT OF ACTIVITY FUELS

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Minimize fire fighting costs.
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. The maximum average annual burned area is 965 acres.
5. The maximum fire size objective is 200 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

The initial response objective is to economically confine all fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed the size objective are considered escaped and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA will consider at least the following:

1. The resource management emphasis of threatened management areas.
2. Suppression costs commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Confinement of fires to the woodland vegetation.
7. Size objectives based on continuous area of high intensity burn.
8. Impacts on cultural resources.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 12: 219,494 ACRES

This management area includes portions of the western, northern, and eastern sides of the North Kaibab Ranger District and includes essentially the entire woodland vegetative zone. This area is in the Kanab Creek, Coyote Wash, and Houserock-Marble watersheds. It is an elevated plain dissected by numerous drainage systems and displaying karst topographical features (e.g., solution basin, sinkholes, etc.). Elevations range from 5,200 feet to 6,800 feet. Drainage systems are well-defined and flows are ephemeral.

Fifty-seven percent of the soils in this management area are moderately deep and are well suited for management actions; Thirty-nine percent are typically shallow or very shallow and poorly suited for management actions; and four percent are moderately deep and suited for management actions.

Soil and water problems in this area are unsatisfactory watershed condition, soil erosion, and loss of soil productivity. Approximately 52 percent of the management area is in unsatisfactory watershed condition. Unneeded system roads and poorly constructed and maintained roads contribute to accelerated sedimentation and impact water quality.

The climate within this management area is warm temperate. Precipitation ranges from 14 to 18 inches per year. Winter precipitation accounts for more than half of the annual total.

Most of this area is dominated by woodland vegetative species. The tree component is pinyon pine and Utah juniper, but at higher elevations, Gambel oak is present. The understory is mainly big sagebrush, snakeweed and rabbitbrush. Impacted range sites are dominated by blue grama but squirreltail, junegrass, Indian ricegrass, and , mutton bluegrass are present on better sites.

Ponderosa pine and its associated vegetative species comprise four percent of this area. Generally, big sagebrush is the dominant shrub species, although in the pure ponderosa pine zone it is absent. Forage species include, pine dropseed, black dropseed, squirreltail, mountain muhly, mutton bluegrass, and blue grama.

Wildlife: The area is critical winter range for approximately 65 percent of the North Kaibab mule deer herd. Extremely heavy use of the forage base by livestock has degraded the habitat; however opportunities exist to redistribute livestock use.

Water and forage improvements are needed where critical deer winter range is over-utilized. The propagation and enhancement of browse species is necessary on low winter range as the intensity of browsing contributes to the mortality of browse seedlings. There is insufficent cover on the lower points of the west side due to natural sparcity. In the higher elevations there are ponderosa pine stringers and ponderosa pine-pinyon pine-juniper "fringe" which is turkey winter roost habitat. Gambel oak component provides critical cover and mast for turkey. The majority of this management area, 95 percent, is in the Grand Canyon National Game Preserve.

The management indicator species are mule deer, plain titmouse, pronghorn antelope, turkey and pygmy nuthatch.

Minerals: The management area has moderate to high potential for uranium; however only a small portion of the area is outside the Grand Canyon National Game Preserve and open to entry under the mining laws. The Geological Survey mineral report for Kanab Creek Wilderness Area assigns a probable potential for uranium and copper to collapse structures scattered throughout the area. Several of the collapse structures identified in the survey are located within the management area.
The area has low to moderate potential for oil and gas. Oil and gas prospecting and leasing activities have been concentrated in the northern portion of the unit. Future exploration of existing leaseholds is likely. Recommendations, including any special surface use stipulations, must be made for future lease applications. Oil and gas prospecting, exploration and development activities can impact other resource values and uses.

Several common variety mineral material sources are located within the unit.

Land ownership management: The north-central portion of the area is suited for the development of new utility corridors due to its low visual sensitivity and topographic features.

Visual resources: Visual quality objectives for most of this unit allow modification of the landscape characteristics. Visually sensitive areas occur along Highway 89A, FDR 422, the rim of the Grand Canyon and several forest roads leading to points overlooking the Grand Canyon. Management activities in these sensitive areas are visually subordinate to the characteristic landscape.

Cultural resources: This area has densities of cultural resource sites varying from low to high, however less than 2 percent of the area has been inventoried for cultural resource sites. Little is known about the distribution and significance of cultural resource sites in the area.

Recreation: Recreation use within the area is generally low and most use is associated with big game hunting. Moderate use areas occur along roads that access points overlooking the Grand Canyon. Several of these roads also lead to trail heads which provide access to Kanab Creek Wilderness Area and Grand Canyon National Park. There are opportunities for improving access and interpretive facilities associated with these scenic vistas and wilderness trail heads.

The predominate ROS class is roaded and natural appearing; however there are several large areas classified as semi-primitive and semi-primitive motorized. These areas provide recreation opportunities in a primitive setting without the restrictions associated with wilderness designation.

Range: The area is grazed by cattle on a seasonal basis; most of the area is winter range. Permitted grazing use is in balance with estimated grazing capacity. There are 72,578 acres of full capacity range, of which 22,859 acres are in satisfactory condition, and 49,719 acres are in unsatisfactory condition. The woodland and sagebrush types produce very little forage. Opportunities exist to improve forage production by fuelwood harvesting followed by seeding of grasses, browse, and forbs. Significant acreage of forage improvements and structural improvements such as cattleguards, fences, and water developments have been made and provide a substantial amount of grazing capacity and need to be maintained on a scheduled basis to sustain the grazing capacity.

Facilities: Access to this area is via Highway 89A, FDR 220, 248A, 248D, 422, 422A, 423, 447, and 462. FDR 422 and 462 are surfaced and provide all-weather access. These roads and the local road system provide dry-weather access for forest proctection, resource utilization and resource management. There are 693 miles of local roads in the area with a local road density of 2.02 miles per square mile.

Fire Management: The fuel profile is not conducive to large, high intensity fires. The potential for resource damage is very low and most fires are more beneficial than damaging. An opportunity exists to significantly reduce protection costs without serious damage to the resources.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 12

Management emphasis: Provide moderate level of management for dispersed recreation, range, and minerals; high level of investment for wildlife habitat improvement; moderate level of investment for soil and watershed improvement; low-moderate level of landownership management, fire management, and facilities management; and no commercial timber harvesting and fuelwood management. Recognize game preserve status and extend special consideration for wildlife values in resource decision-making.

Table 54. Land Classification in Management Area 12 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	2,627
2. Seral grassland	67
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	2,694
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper woodland not-suitable	204,164
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	204,164
3. Forested land physically not-suitable	8,676
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	3,960
b. Suitable timberland not-appropriate for timber production	3,960
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	216,800
Total non-forested land	2,694
Total forested land not-suitable for timber production	216,800
Total timberland suitable for timber production	0
Total National Forest Land	219,494

Table 55. Vegetative Treatment by Resource Activity in Management Area 12 in Planning Period 1

Resource Activity		Acres
Not-suitable forest land		
Pinyon-juniper woodland		
Seed cutting		0
Range non-structural improvement (seeding)		0
Wildlife non-structural improvement		25,910
Fuelwood (special cutting)	5,050	
Burning	7,750	
Planting and seeding	13,110	
Soil and watershed improvement (special cutting)		3,710
Seral grassland		
Wildlife non-structural habitat improvement		800
Range non-structural improvement - retreatment		2,742
Coniferous forest		
Wildlife non-structural improvement		2,160
Aspen (special cutting)	0	
Brush treatment	0	
Burning	0	
Planting and seeding	2,160	
Suitable timberland		
Coniferous forest		
Site preparation		0
Precommercial thinning		0
Intermediate harvest		0
Range non-structural improvement (seeding)		0
Seed cutting		0
Final removal Cutting		0
Wildlife non-structural improvement		0
Burning	0	
Planting and seeding	0	

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Use traffic counts, trail counts, and visitor registration systems to determine dispersed recreation use (RIM reliability class 4). Use visitor counts and length of stay data to determine use of popular dispersed facilities and areas (RIM reliability class 3). Update ROS inventory and classifications at 5-year intervals beginning in 1990. Prepare district recreation operation and maintenance plans annually for dispersed areas. Revise district dispersed recreation opportunity guides as necessary.

Prepare viewshed corridor plans for all sensitivity level 1 travel routes.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interprative values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab Nationaal Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the Kaibab National Forest in planning period 1.

Inventory existing visual condition (EVC) and visual absorption capability (VAC) of the landscape during planning period 1.

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENT

Protect all cultural resource sites located in project areas through avoidance. Evaluate all sites for National Register eligibility on a priority basis. Priority is based upon preliminary indications of relative significance.

A07 FACILITY AND SITE MANAGEMENT

Provide information services at district offices during the recreation season. Prepare and distribute news releases regularly on dispersed and developed recreation opportunities. Prepare and publish brochures for specific dispersed recreation facilities.

A08 USE ADMINISTRATION

Operate and maintain heavily used dispersed areas and facilities to standard service management by providing regular scheduled patrols throughout the recreation season. Provide control measures for areas where the following resource damage occurs: (1) Soil compaction, (2) loss of vegetative cover, (3) tree damage and mortality, and (4) deterioration of water quality.

Visitor occupancy is restricted to 14 days in any 30-day period.

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Inspect dispersed recreation trails annually. Maintain trails to maintenance level 3 or higher (as defined in FSH 1309.11a 1986-1990).

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

Survey and evaluate assessment areas during project design and plan projects to achieve the following habitat objectives:

Provide forage cover ratios between 40:60 to 60:40.

Snags:
1. Ponderosa pine: not less than 180 snags, 14 inches and larger DBH and 15 feet in height, per 100 acres over 55 percent of the forested area.
2. Pinyon-juniper: not less than 100 snags, 9 inches and larger DRC and 12 feet in height, per 100 acres over 55 percent of the forested area.

Achieve snag habitat objectives based on the specific needs of the area through the use of the following practices by priority:
1. Protect and retain existing snags.
2. Intensively manage to meet habitat objectives on snag management emphasis areas (forest opening edges, water sources).
3. Promote recruitment by:
   a. Retain live disease free cavity trees.
   b. Retain culls and damaged trees.
4. Induce mortality
   a. Kill diseased trees.
   b. Kill healthy trees.

Turkey habitat:
1. Provide for not less then four turkey roost tree-groups per section in turkey winter range and not less than two turkey roost tree-groups per section in turkey summer range.
2. Emphasize turkey winter habitat in areas within 40 chains of pine stringers. (Pine stringers are defined as non-contiguous, linear communities of predominately ponderosa pine, up to 40 chains in width, that extend into the pinyon-juniper woodland below the typical elevational distribution of ponderosa pine).
3. Provide for a minimum of one cover structure per two acres within 40 chains of water for turkey nesting cover.

Peregrine falcon habitat:
1. Prohibit activities which disturb nesting birds in the vicinity of essential nesting habitat from March 15 to August 15. This period can be extended if the birds remain strongly attached to nest sites after August 15 .

Spotted owl habitat:
1. Maintain 300 acres of contiguous core area habitat in occupied nest territory.
2. Maintain existing old-growth and down-woody material in each core area.

Raptor habitat:
Retain raptor nest tree-groups and a non-activity buffer around raptor nest sites as follows:
1. Goshawk: 8-chain buffer zone around the nest.
2. Cooper's hawk: 7-chain buffer zone around the nest.
3. Sharp-shinned hawk: 6-chain buffer zone around the nest.
4. Others: 3-chain buffer zone around the nest.
5. Protect verified bald eagle winter-roosts with a 5-chain buffer zone around the roost. Prohibit road development in the roost and buffer zone.

Hiding and thermal cover:
1. Provide for hiding and thermal cover in fawning areas.
2. Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.
3. Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Areas allocated for hiding cover will be not less than 10 chains in width.

Old-growth stands:

Allocate coniferous forest timber stands for old-growth habitats as specified in Table 56 and the following guidelines.

Table 56. Allocation of Coniferous Forest Stands in Management Area 12 for Old-Growth Habitat

Suitable timberland allocated to extended rotations for old-growth habitat:	Acres
1. Seedling and sapling	0
2. Poletimber	0
3. Immature sawtimber	0
4. Mature sawtimber	0
Unsuitable timberland allocated to old-growth habitat:	4,338
Total	4,338

1. Stand size is not less than 100 acres and five chains in width.
2. Stands allocated and selected for old-growth habitats will be well-distributed across the management area.
3. Any stand selected for old-growth habitat will be taken from the best stands in the assessment area. Criteria for defining best stands is developed from current biological literature.
4. Ponderosa pine:
   a. (1) Not less than 1,400 trees, 20 inches DBH or larger, per 100 acres on sites with an index greater than 54.
      (2) Not less than 1,400 trees, 14 inches DBH or larger, per 100 acres on sites with an index less than 54.
   b. Two stories with 60 square feet of basal area in the understory.
   c. Not less than 180 snags, 14 inches DBH and larger and 15 feet in height, per 100 acres.
   d. Not less than two down trees, 12 inches and larger in diameter and 16 feet or more in length, per acre.
5. Provide for the perpetuation of certain, mature or overmature ponderosa pine (yellow pine) stands that do not have either a two-storied vegetative condition or down-woody material. These stands possess late seral characteristics and it is desirable to maintain their open condition.
6. Pinyon-juniper:
   a. Stand size of 100 to 300 acres and 5 chains or greater in width.
   b. Not less than 3000 trees, 9 inches DRC or larger, per 100 acres.
   c. Not less than 100 snags, 9 inches DRC or larger, per 100 acres.
   d. Not less than two down trees, 9 inches in diameter or larger and 10 feet in length, per acre.

C02 NON-STRUCTURAL HABITAT IMPROVEMENT.

Areas needing additional forage for mule deer are given priority in scheduling fuelwood wildlife habitat improvement. Treatments are usually done in areas removed from disturbance to maximize habitat effectiveness. Provide for at least 40 percent cover. Emphasize cover in travelways, bedding areas, reproductive areas, and areas adjacent to water sources and openings. Manage cover areas to provide at least 60 percent crown cover and be at least 10 chains in width.

Do non-structural wildlife habitat improvement in accordance with Table 55 and the following guidelines using special cutting, burning, seeding, and planting:

Created openings in pinyon-juniper woodland:
1. Opening is not larger than 40 acres.
2. The maximum width of the opening is 10 chains.
3. The maximum sight distance within the opening is 15 chains.
4. The minimum distance between any two openings is 10 chains.
5. Retreat these areas by burning and seeding at 30-year intervals.
6. Exclude livestock from treated areas for not less than two growing seasons.

Sagebrush:
1. Treat by burning.

Visual resource management standards to meet partial retention visual quality objective for Highway 89A are:
1. Stand size is 10 to 30 acres.

2. Span of stand along corridor is not to exceed ten chains.
3. Complete cleanup of activity slash within three months of treatment.

Visual resource management standards to meet partial retention visual quality objective for FDR 292B, 422, 425 and within 20 chains of the rim of the Grand Canyon are:

1. Stand size is 10 to 40 acres.
2. Span of stand along the corridor is not to exceed ten chains.
3. Provide for total cleanup of activity slash within one year of treatment.
4. Created opening is not to exceed four acres in the coniferous forest.

C03 STRUCTURAL HABITAT IMPROVEMENT

Do structural habitat improvement in accordance with the following guidelines:

1. Install protective fences, watering structures, brush piles, road closure devices, nesting structures, pothole developments, and kill trees to improve snag distribution.

2. Structural habitat improvement

	structures
a. Wetland improvements: (waterfowl nesting islands, potholes)	0
b. Aquatic improvements: (earthen tank construction)	20
c. Water developments: (springs, guzzlers, trick tanks)	20

3. Prevent livestock access to 70 percent of the shoreline of the stock tanks that have stable water levels. Fence up to five acres and seed to low height cover species.
4. Provide for one permanent water source per square mile.
5. Install structures to recharge wet meadows and riparian areas.
6. Construct, improve, and, or stabilize lakes to improve lake habitat for desirable fish species.

P11 TREATMENT OF ACTIVITY FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 50 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at level D. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan. Revise existing allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment re-analysis every 10 years on allotments where management has not corrected downward trends and changes in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 70 percent of the allotments. Conduct allotment re-analysis every 20 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments having become a problem. At 12-year intervals, conduct production-utilization surveys.

Riparian vegetation:

1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D03 RANGE NON-STRUCTURAL IMPROVEMENT-RETREATMENTS

Re-treat 2,742 acres of improved forage areas as specified in Table 55 and in accordance with the following guidelines:

1. The area to be treated is situated on one or more of the following soil maping units: 8, 17, 23, 30, 32, 250, 251, 263, 264, 272, 273, 280, 632, 633, and 634.
2. Created opening is not larger than 40 acres.
3. Maximum width of any created opening is 10 chains.
4. Maximun sight distance within any created opening is 15 chains.
5. Minimum distance between any created openings is 10 chains.
6. Exclude livestock from treated areas for a minimum of two growing seasons after treatment.
7. Visual resource management standards to meet partial retention visual quality objective for Highway 89A are:
   a. Stand size is 10 to 30 acres.
   b. Span of stand along corridor is not to exceed ten chains.
   c. Complete cleanup of activity slash within three months of treatment.
8. Visual resource management standards to meet partial retention visual quality objective for FDR 292B, 422, 425 and within 20 chains of the rim of the Grand Canyon are:
   a. Stand size is 10 to 40 acres.
   b. Span of stand along corridor is not to exceed ten chains.
   c. Complete cleanup of activity slash within one year of treatment.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing and add new structural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Inspect 70 percent of the allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES

Complete forest inventory on 219,494 acres and revise on a 10-year cycle.

E03 SILVICULTURAL EXAMINATION AND PRESCRIPTION

Complete stand delineation, mapping, vegetative and condition class typing, and acreage assignment for all lands in the management area. Maintain EDP stand information system. Apply standards and guidelines on an assessment area basis (approximately 10,000 acres), rather than on an individual timber sale basis, to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

E06 TIMBER SALE PREPARATION

Make commercial and personal-use fuelwood, and miscellaneous forest product sales in accordance with Table 55 and the standards and guidelines for C02 Wildlife Non-Structural Habitat Improvement and F03 Improvement.

Utilization standards: Fuelwood sizes vary by objectives.

E07 TIMBER HARVEST ADMINISTRATION

Administer commercial and personal-use permits for fuelwood and miscellaneous forest products. This includes accountability, financial management, field inspections, and contract interpretation and enforcement. Close local roads until the next entry by signing and physical obstructions such as gates or barriers. Obliterate temporary roads and return them to production. Impose temporary ORV restrictions until revegetated.

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY
Complete Terrestrial Ecosystem Survey (TES) in 1987; complete watershed condition inventories in 1990.

F02 PLANNING

Develop watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process in 1995.

F03 IMPROVEMENT

Implement land treatment and structural measures in accordance with Table 55 and the following standards: do 3,710 acres of ground cover improvement in the following soil map units: 8, 17, 27, 30, 32, 40, 250, 251, 263, 264, 272, 273, 280, 281, 632, and 634.

1. Created opening is not larger than 40 acres.
2. Maximum width of the opening is 10 chains.
3. Maximum sight distance within the opening is 15 chains.
4. Minimum distance between any two openings is 10 chains.
5. Visual resource management standards to meet partial retention visual quality objective for Highway 89A are:
   a. Stand size is 10 to 30 acres.
   b. Span of stand along corridor is not to exceed ten chains.
   c. Complete cleanup of activity slash within three months of treatment.
6. Visual resource management standards to meet partial retention visual quality objective for FDR 292B, 422, 425 and within 20 chains of the rim of Grand Canyon are:
   a. Stand size is 10 to 40 acres.
   b. Span of stand along corridor is not to exceed ten chains.
   c. Complete cleanup of activity slash within one year of treatment.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined (after problem assessment, examination of the alternatives and appropriate review by local or State agencies and public participation) to be the most effective practicable means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatible with water quality goals. These practices are involved in activities affecting the Forest and grassland resource and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Stream courses will be designated within timber sales to protect watershed values. This protection will include no skidding within riparian areas and along or across designated stream courses.
3. Rehabilitation will be applied when needed to minimize loss of site productivity following activities or wildfire.

F05 RESOURCE INVENTORY REPORTS

Complete TES report in FY 1987.

F07 RIGHTS/USE MANAGEMENT

Obtain water rights before developing new waters. Annually update the forest water uses, requirements and rights inventory.

RESOURCE MANAGEMENT PRACTICE: Mineral Management

Work Activity and Standard and Guideline

J04 WITHDRAWALS, MODIFICATIONS, AND REVOCATIONS

Withdraw the following areas to locatable mineral entry:
1. Cultural resource sites with National Register status.

G03 PROCESSING OF EXPLORATION PROPOSALS

Impose operating constraints on leasable and locatable mineral prospecting and exploration activities in or adjacent to the following wildlife habitat components.

Habitat Component and Area of Restriction	Restriction	Approximate Season of Restriction
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	No surface disturbance or occupancy.	April to July

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special-use sites.	Areas of large capital investments. Yearlong for the effective term of the lease.	No surface disturbing activities.
Soil map units with slopes of 15 percent or greater.	Areas with moderate to high erosion potential. Yearlong, for the effective term of the lease.	Special mitigation measures required for surface disturbing activities.
Within one-eighth mile of all sites listed on National Register.	Protection of historic values. Yearlong, for the effective term of the lease.	No surface disturbance or occupancy.
Individual colonies of T&E and sensitive plants.	Limited plant populations require protection. Yearlong, for the effective term of the lease.	No casual uses, surface distrubance or occupancy.
Within one mile of T&E raptor nest sites.	Nesting activities highly susceptible to disturbance. March to July, for the effective term of the lease.	No surface disturbance or occupancy.
10 chain wide corridor and open meadows along Highway 89A and within 20 chains of the rim of the Grand Canyon.	Areas visually sensitive to any alteration. Yearlong, for effective term of the lease.	No surface disturbing activities.

Area of Restriction	Reason and Duration of Restriction	Restriction
Within 10 chains of developed recreation sites.	Areas visually sensitive to any alteration. May to October for the effective term of the lease.	No surface disturbing activities.
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	Nesting activities highly susceptible to disturbance. April to July, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of permanent water sources.	Allow unrestricted access to water sources. Year-long for the effective term of the lease.	No surface disturbing activities or occupancy.

Discontinue common variety mineral material disposals from existing sources, rehabilitate existing material pits, and prevent development of potential sites in:

1. Ten chain wide corridor along Highway 89A.
2. Within 20 chains of turkey or raptor nest sites and permanent water sources.
3. Areas with semi-primitive or semi-primitive motorized ROS classifications.

G05 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral developments based on:

1. Construction, maintenance and hauling costs.
2. Integration with other resource management uses.
3. Monitoring of wildlife impacts and, or mitigation of habitat loss through habitat improvement projects.
4. Impacts on visual quality objectives.
5. Impacts on areas of concentrated recreation use.

F01 SOIL AND WATER RESOURCE INVENTORY

Conduct level 2 soil inventory of mined areas scheduled for restoration.

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

G08 RESERVED AND OUTSTANDING RIGHTS

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT [NON-RECREATION]

Allow expansion of existing major utility corridors and clearing of new corridors. Attempt to avoid the following areas:

1. Areas with pristine, primitive or semi-primitive ROS classifications.
2. Areas with high cultural resource values.
3. Important wildlife habitat areas.
4. Visually sensitive areas.
5. ORV closure areas.
6. Lands classified as suitable timberland.

Provide for joint use in corridors and combine uses to the extent possible in light of technical and environmental constraints.

J02 RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS

Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees and termination dates. Adjust fees based on fair market values at five year intervals or when permits or grants are re-issued. Update Land Use Reporting System during annual file reviews.

J05 LAND STATUS MAINTENANCE

Make initial land status entries when special use permits and right-of-way grants are issued or amended and when land conveyance cases are completed.

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

J10 ENCROACHMENT

J11 LANDOWNERSHIP PLANNING

J12 LAND ADJUSTMENT PLANNING

J18 RIGHTS-OF-WAY ACQUISITION

Acquire the following rights-of-way:
1. Willis Canyon, FDR 248D, 11.0 miles.
2. West Side, FDR 422, 18.0 miles.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Facilities Management

Work Activity and Standard and Guideline

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORY

L02 ARTERIAL ROAD PRECONSTRUCTION

Design arterial roads at traffic service level C or B.

L03 ARTERIAL ROAD CONSTRUCTION ENGINEERING

L05 ARTERIAL ROAD RECONSTRUCTION

L06 COLLECTOR ROAD PRECONSTRUCTION

Design collector roads at traffic service level C or B.

L07 COLLECTOR ROAD CONSTRUCTION ENGINEERING

L09 COLLECTOR ROAD RECONSTRUCTION

L19 ROAD OPERATION

Road maintenance standards are:
1. Maintain commensurate share roads for intended commercial use.
2. Maintain local roads, closed to traffic, at maintenance level 1.
3. Maintain local service roads, open to traffic, at maintenance level 2.
4. Maintain signs to meet safety requirements.
5. Maintain arterial and collector roads at maintenance level 4 or 5.

L24 FA & O CONSTRUCTION/RECONSTRUCTION

L25 FA & O FACILITIES MAINTENANCE

L46 POTABLE WATER SYSTEM ADMINISTRATION AND MANAGEMENT

L47 WASTEWATER SYSTEM ADMINISTRATION AND MANAGEMENT

P11 TREATMENT OF ACTIVITY FUELS

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Minimize fire fighting costs.
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. The maximum average annual burned area is 4,390.
5. The maximum fire size objective is 200 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

The initial response objective is to economically confine all fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed the size objective are considered escaped and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA will consider at least the following:

1. The resource management emphasis of threatened management areas.
2. Suppression costs commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Confinement of fires to the woodland vegetation.
7. Size objectives based on continuous area of high intensity burn.
8. Impacts on cultural resources.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 13: KANAB CREEK WILDERNESS: ACRES 67,981

This management area is the Kanab Creek Wilderness Area; it is located in the western part of the North Kaibab Ranger District. The management area is typical of canyonland formations with steep scarp slopes and narrow drainage bottoms. Almost 80 percent of this area has slopes in excess of 40 percent. Elevations range from 3,500 feet to 6,000 feet.

Soils, Climate and Vegetation: Soils within this management area are shallow to moderately deep, coarse textured, and poorly suited for management actions.

Soil and water management problems in this area are unsatisfactory watershed condition, soil erosion, and loss of soil productivity. Approximately one percent of the area is in unsatisfactory watershed condition. This is a small fraction of the total area, but it represents essentially the entire drainage bottom which has the highest production potential and most accessible to grazing livestock.

Climate in this area is semi-arid. It is characterized by hot dry summers, and cool moist winters. The hottest months are June and July and the coldest are December and January. Mean annual precipitation ranges from eight inches to 12 inches.

Vegetation in this area is dominated by the desert shrub blackbrush. Forage species are essentially non-existent except for an occassional needle-and-thread and Indian ricegrass. Riparian species are present, including cottonwood, desert almond, red bud and single-leaf ash, in the drainage bottom.

Wildlife: The area above the scarps is critical winter range for mule deer. Peregrine falcon habitat is present in this area. Suitable desert bighorn sheep habitat is present and re-introduction of this species is expected. Riparian habitats are degraded; salt cedar is present at the expense of native cottonwood and willow communities. Almost all of the chukar partridge in Arizona is in this area. The majority of this management area, 90 percent, is in the Grand Canyon National Game Preserve.

The management indicator species are mule deer, plain titmouse, yellow breasted chat and macroinvertebrates.

Minerals: The management area has moderate to high potential for uranium. A recent mineral report by the Geological Survey assigns a probable potential for uranium and copper in four small areas around five collapse structures located within the management area. Several uranium deposits have been found in similar structures on adjacent lands of the Bureau of Land Management. Three deposits are under development.

The Arizona Wilderness Act of 1984 withdrew the area to entry under the mining and mineral leasing laws subject to rights established before the date of its wilderness designation. The bottoms of the Kanab Creek and Snake Gulch form a portion of the north and west boundaries of the Grand Canyon National Game Preserve which is also closed to locatable mineral entry. There is narrow strip of land, north of Snake Gulch and west of Kanab Creek, which is outside of the Grand Canyon National Game Preserve, but within this wilderness area. Numerous mining claims were located in this portion of the management area prior to its wilderness designation in 1984.

The area has low potential for oil and gas.

Land ownership management: A 140 acre tract of private land near the confluence of Snake Gulch and Kanab Creek has been identified for acquistion under L&WCF authorities.

Visual resources: The visual quality objective of preservation for Kanab Creek Wilderness Area allows for ecological changes only. Minerals and range management practices, authorized under the Wilderness Act, may alter landscape features if activities are not modified to address visual concerns related to maintenance of landscape and wilderness characteristics.

Cultural resources: The entire management area is essentially unsurveyed for cultural resource sites and the probability of conducting inventories in conjunction with ground disturbance projects is low. Little is known about the distribution and significance of cultural resource sites in the area.

Recreation: Use of Kanab Creek Wilderness is low and most use is concentrated in the bottom of Kanab Creek and Snake Gulch and along the 65.0 mile trail system which links the area to adjacent lands of Grand Canyon National Park. Visits are generally of longer tenure due to the remote and formidable nature of the area. Estimated capacity for Kanab Creek Wilderness is low relative to its size because of the characteristic sparse vegetation and rugged topographic features.

Range: The area is grazed from December to March by cattle. The useable areas are principally found in canyon bottoms. Most of the area is unsuitable for grazing because of steep topography and inaccessibilty. Permitted grazing use is in balance with estimated grazing capacity. There are 720 acres of full capacity range, of which 360 acres are in satisfactory condition, and 360 acres are in unsatisfactory condition. Range condition and trend is improving. Range improvements consist of fences and water developments; their maintenance is necessary to sustain grazing capacity.

Fire Management: The fuels profile is not conducive to fire occurrance. The few fires that occur are small and self confining. This area is well suited to allow natural fire to burn freely. The opportunity exists to utilize low cost suppression response for person-caused fires.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 13

Management emphasis: Provide for standard level wilderness management and moderate level of range management. Recognize game preserve status in this unit and extend special consideration for wildlife values in resource decision-making.

Table 57. Land Classification in Management Area 13 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	0
3. Classified wilderness	67,981
4. Research natural area	0
Total non-forested land	67,981
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	0
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	0
3. Forested land physically not-suitable	0
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	0
b. Suitable timberland not-appropriate for timber production	0
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	0
Total non-forested land	67,981
Total forested land not-suitable for timber production	0
Total timberland suitable for timber production	0
Total National Forest Land	67,981

RESOURCE MANAGEMENT PRACTICE: Wilderness Management

Work Activity and Standard and Guideline

B02 WILDERNESS INVENTORY

Monitor traffic counters and voluntary registration systems at trailheads and adjust use estimates with visitor count data gathered during wilderness patrols (RIM reliabilty class 4). Implement "Limits of Acceptable Change" concept by selecting indicators for areas within each Wilderness Opportunity Spectrum (WOS) classification. Monitor indicators to determine impacts of use.

B03 WILDERNESS USE ADMINISTRATION

Inspect and administer areas within the Transition and Semi-Primitive WOS classifications by regular scheduled patrols throughout the recreation season. Increase frequency of patrols along wilderness boundaries and in the Transition WOS areas during hunting season. Patrol wilderness boundaries and trailheads. Post signs and construct fencing where necessary to restrict vehicle access.

Limit party sizes to a maximum of 25 persons.

Manage campsites at standard service management. Prevent deterioration of campsites in condition classes 1-3. Discourage use of campsites that fall below condition class 3. Dismantle improvised camp structures encountered during patrols.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab National Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program.

Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the Kaibab National Forest in planning period 1.

The assigned visual quality objective for Kanab Creek Wilderness Area is preservation.

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Maintain trails to maintenance level 1. Heavily used trail segments may be maintained to maintenance level 2.

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species, and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at level C. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan. Revise allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment analysis every 10 years on allotments where management has not corrected downward trends and changes in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 70 percent of the allotments. Conduct allotment analysis every 20 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments as having become a problem. At 12-year intervals, conduct production-utilization surveys.

Riparian vegetation:

1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing structural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Make inspections annually on active allotments. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) in FY 1987. Complete watershed condition inventories in FY 1990.

F05 RESOURCE INVENTORY REPORTS

Complete TES report in FY 1987. Annually update the water uses, requirements and rights inventory.

F07 RIGHTS/USE MANAGEMENT

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J05 LAND STATUS MAINTENANCE

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

J15 LAND AQUISITION

The Snake Gulch tract (160 acres) is eligible for aquisition through L&WCF authorities.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Permit lightning caused fires to play, as nearly as possible, their ecological role and to minimize the suppression impacts and acreage burned by person-caused fires.
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and property.
4. Allow fire to exceed wilderness boundary only if the objectives of the entered management area can be met.
5. Allow lightning caused fires to burn naturally within the wilderness.
6. Maximum size objective for person-caused fires is 200 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

1. Mechanized equipment, except line building equipment, may be used with Forest Supervisor's approval, if necessary, to meet forest protection objectives.
2. Monitor and confine all lightning fires to the wilderness.
3. Economically control all person-caused fires within the size objective.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed the size objective are considered escaped and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA will yonsider at least the following:

1. Ignition source of the fire (lightning or person-caused).
2. If lightning caused, consider the appropriateness of the predicted burn with respect to the objectives of fire management in wilderness.
3. Resource management emphasis and protection objectives of threatened analysis area.
4. Suppression costs will be commensurate with resources protected.
5. Effects on air quality, aesthetics, soil, and watershed.
6. Social acceptance of acreage burned.
7. Current availability of suppression resources.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 14: SADDLE MOUNTAIN WILDERNESS 40,615 ACRES

This management area is the Saddle Mountain Wilderness Area; it is located in the southeast section of the North Kaibab Ranger District. This area is within the Houserock-Marble watershed which is characterized by narrow drainage bottoms adjacent to steep and very steep ascending scarp slopes. Elevations range from 6,000 feet to over 8,000 feet.

Soil, Climate and Vegetation: Soils within this management area are moderately deep. The steep and very steep slopes preclude most management activities.

The climate in the lower elevations of this management area is warm-temperate. Mean annual air temperature varies from 40 degrees to 70 degrees; precipitation ranges from 14 to 18 inches with a mean of 16 inches per year. Winter precipitation accounts for more than half of the annual total. In the higher elevations, boreal climatic patterns prevail with the cool, moist summers and cold, wet winters. Precipitation averages approximately 25 inches per year.

Vegetation is diverse, because of aspect, soils, elevation, and slope. In the lower elevations pinyon pine-Utah juniper is dominant. This vegetative type includes big sagebrush, cliffrose, blue grama, junegrass, squirreltail, and mutton bluegrass. In the higher elevations, mixed conifer ecosystems prevail including aspen, smooth brome, weeping brome, and pine dropseed. On steep south aspects, fire induced vegetative communities are present. The overstory component is dominated by Gambel oak with white fir, Douglas fir and ponderosa pine.

Wildlife: North Canyon Creek has a viable population of the threatened Apache trout. This population is outside of this species historic range; nonetheless it contributes to population stability and the genetic integrity of this species. The lower elevations provide valuable mule deer winter range. A large, twenty year old, burned area in the southern portion of this area provides suitable summer habitat for deer and blue grouse. South Canyon Spring and Tater Canyon Springs, which originate in this area, provide numerous sources of water in the lower elevations for deer, pronghorn antelope, and bison. All of this management area is in the Grand Canyon National Game Preserve.

The management indicator species are mule deer, turkey, pygmy nuthatch, plain titmouse, Lincoln's sparrow and macroinvertebrates.

Minerals: The management area has low potential for uranium and oil and gas. The Arizona Wilderness Act of 1984 withdrew the area to entry under the mining and mineral leasing laws. There are no mining claims of record or oil and gas leases within the area.

Visual resources: The visual quality objective of preservation for Saddle Mountain Wilderness Area allows for ecological changes only. Range, wildlife and recreation facilities with low visual impacts are allowed if necessary to maintain or enhance wilderness characteristics.

Cultural resources: The entire management area is essentially unsurveyed for cultural resource sites. Surveys of adjacent non-wilderness lands have revealed high densities of cultural resource sites. Similar densities can be inferred for low elevation lands within Saddle Mountain Wilderness. Little is known about the distribution and significance of cultural resource sites in the unit.

Recreation: Recreation use within this area is low and most use is associated with hiking and camping on or along the twenty mile trail system. Scenic vistas overlooking the wilderness and certain trail segments receive a considerable amount of day use because of the areas proximity to the Grand Canyon National Park. Estimated capacity for Saddle Mountain Wilderness exceeds the projected use of this area.

Range: The useable portions of the area provide summer range for cattle and parts of the year-long bison range. Most of the area is classed unsuitable for grazing because of steep slopes and inaccessibility. Permitted grazing use is in balance with estimated grazing capacity. There are 3,385 acres of full capacity range all of which are in satisfactory condition. Range improvements are fences and water developments; their maintenance is necessary to sustain grazing capacity.

Fire Management: Past suppression practices have allowed an unnatural fuel mosaic to develop in this area. It is still conducive for allowing most lightning caused fires to burn naturally. The opportunity exists for using prescribed fire to create a natural mosaic of fuel types in the area. This will reduce the possibility of a natural fire escaping the wilderness area.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 14

Management emphasis: Provide for standard level wilderness management and moderate level of range management. Recognize game preserve status in this area and extend special consideration for wildlife values in resource decision-making.

Table 58. Land Classification in Management Area 14 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	0
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	0
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	40,615
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	40,615
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	0
3. Forested land physically not-suitable	0
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	0
b. Suitable timberland not-appropriate for timber production	0
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	40,615
Total non-forested land	0
Total forested land not-suitable for timber production	0
Total timberland suitable for timber production	0
Total National Forest Land	40,615

RESOURCE MANAGEMENT PRACTICE: Wilderness Management

Work Activity and Standard and Guideline

B02 WILDERNESS INVENTORY

Monitor traffic counters and voluntary registration systems at trailheads and adjust use estimates with visitor count data gathered during wilderness patrols (RIM reliabilty class 4). Implement "Limits of Acceptable Change" concept by selecting indicators for areas within each Wilderness Opportunity Spectrum (WOS) classification. Monitor indicators to determine impacts of use.

B03 WILDERNESS USE ADMINISTRATION

Inspect and administer areas within the transition and semi-primitive WOS classifications by regular scheduled patrols throughout the recreation season. Increase frequency of patrols along wilderness boundaries and in the transition WOS areas during hunting season. Patrol wilderness boundaries and trailheads. Post signs and construct fencing where necessary to restrict vehicle access. Limit party sizes to a maximum of 25 persons.

Manage campsites at standard service management. Prevent deterioration of campsites in condition classes 1 to 3. Discourage use of campsites that fall below condition class 3. Dismantle improvised camp structures encountered during patrols.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab National Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

The assigned visual quality objective for Saddle Mountain Wilderness Area is preservation.

Complete cultural resource overview documents for the Kaibab National Forest in planning period 1.

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Maintain trails to maintenance level 1. Heavily used trail segments may be maintained to maintenance level 2.

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species, and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Peregrine falcon habitat:
1. Prohibit activities which distrub nesting birds in the vicinity of essential nesting habitat from March 15 to August 15. This period can be extended if the birds remain strongly attached to the nest site after August 15.

Re-distribute Apache trout upstream in North Canyon Creek

C03 STRUCTURAL HABITAT IMPROVEMENT

Construct 20 single log structures, using primitive means, to improve Apache trout habitat in North Canyon Creek.

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at level C. Less than satisfactory range conditions will be improved through completion of the range development program outlined in the allotment management plan. Revise allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment analysis every 10 years on allotments where management has not corrected downward trends and changes in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 70 percent of the allotments. Conduct allotment analysis every 20 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments as having become a problem. At 12-year intervals, conduct production-utilization surveys.

Riparian vegetation:
1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing sturctural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Make inspections on 70 percent of the allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

P34 FOREST PEST MANAGEMENT - SURVEYS AND TECHNICAL ASSISTANCE

Make annual ground and, or aerial survey to identify and evaluate the forest pest situation in this area.

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J05 LAND STATUS MAINTENANCE

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Permit lightning fires to play, as nearly as possible, their ecological role. Minimize the suppression impacts and acreage burned by person-caused fires.
2. Protect the aquatic habitat in North Canyon.
3. Do not allow fires to spread to lands of other ownership.
4. Protect human life and property.
5. Allow fire to exceed wilderness boundary only if the objectives of the threatened management area can be met.
6. Allow lightning fires to burn naturally within the wilderness.
7. Maximum size objective for person-caused fires is 200 acres.
8. The maximum size objective for any fire within a two mile radius of North Canyon Spring is five acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

1. Mechanized equipment, except line building equipment, may be used with Forest Supervisor's approval, if necessary, to meet forest protection objectives.
2. Monitor all lightning caused fires and confine within the wilderness.
3. Economically control all person-caused fires within the size objective.
4. Direct attack and control all fires within a 2-mile radius of North Canyon Spring.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed the size objective are considered escaped and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA will consider at least the following:

1. Ignition source of the fire (lightning or person-caused).
2. If lightning caused, the appropriateness of the predicted burn with respect to the objectives of fire management in wilderness.
3. Resource management emphasis and protection objectives of threatened analysis area.
4. Suppression costs commensurate with resources protected.

5. Effects on air quality, aesthetics, soil, and watershed.
6. Social acceptance of acreage burned.
7. Current availability of suppression resources.

P12 TREATMENT OF NATURAL FUELS

Use prescribed fire to reduce unnatural accumulations of fuel.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 15: 18,954 ACRES

This management area is located in the west-central part of the North Kaibab Ranger District. It is the transition zone between the pinyon-juniper woodland and pine ecosystems. This area is in the Kanab Creek and House-Rock watersheds. It is an elevated plain dissected by numerous drainage systems. Elevations range from 6,400 feet to 7,200 feet. Drainage systems are well-defined and flows are ephemeral. Steep scarp slopes account for 63 percent of this area.

Soils, Climate and Vegetation: Thirty-seven percent of the soils in this management area are moderately deep and deep and are moderately well suited for management actions and sixty-three percent are typically shallow to moderately deep and are poorly suited for management actions.

The climate in this area is relatively dry in the spring and fall seasons. Precipitation ranges from 18 to 22 inches annually. The vegetation is ponderosa pine with some southwestern mixed conifer, aspen, Gambel oak, and locust and pinyon pine-juniper. Understory shrub species are big sagebrush, cliffrose, blue grama, mountain muhly, Carex sp., and mutton bluegrass. The majority of these stands are on slopes in excess of 40 percent.

Wildlife: This area is an ecotone between ponderosa pine and pinyon-juniper types with diverse habitats. These habitats are heavily used by wildlife because of its high density of turkey roost tree-groups. Sources of water are in short supply. Springs and small lakes in the area are frequently fenced and access for wildlife is obstructed, and conversely, some of the small riparian areas are not protected from overuse by livestock. All of this area is in the Grand Canyon National Game Preserve.

The management indicator species are turkey, Kaibab squirrel, plain titmouse, mule deer, and pygmy nuthatch.

Minerals: The management area has low to moderate potential for uranium and oil and gas. The entire unit is closed to locatable mineral entry. Oil and gas leases have been issued for the northern half of the unit. Recommendations for the remaining portions of the unit must be made to accomodate future lease proposals. Oil and gas prospecting activities, and possibly exploration proposals, are likely to continue.

Visual resources: Most of the unit is visible as backdrop along Highway 89A and FDR 422 and is visually sensitve to alteration.

Cultural resources: Some of the area has been inventoried for cultural resource sites in conjunction with resource management activities. Inventories indicate generally low site densities over most of the unit; however inventoried cultural resource sites have not been evaluated for final disposition.

Recreation: With the exception of that portion of the unit which encompasses the corridor along FDR 422, recreation use of the area is low. The predominate ROS class is roaded and natural appearing. Sensitive areas within the unit are closed to off-road vehicle use.

Range: The area contains some land suitable for livestock grazing, but most of it is not suitable for grazing because of the steep slopes. The accessible areas of forage are principally in the canyon bottoms and on the broader rounded points and ridges. There are 4,539 acres of full capacity range, of which 2,007 acres are in satisfactory condition, and 2,532 acres are in unsatisfactory condition. Range improvements such as fences, pipelines and earthern reservoirs exist within the area and require maintenance and replacement to maintain grazing capacity.

Facilities: Big Springs lookout and cabin are located in this area and are maintained for fire detection. Access to the area is primarily via the local road system. There are approximately 50 miles of local roads in the area with a local road density of 1.69 miles per square mile.

Fire Management: The fuels profile in this area is variable with much of the area not conducive to high intensity fires. However there is sufficient amount of land with high intensity fire potential to warrant a moderately high protection emphasis for this area. The opportunity exists to relax protection standards for low intensity fires. The application of a relaxed standard is complex because of the variability in the fuels and resource damage potential.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 15

Management emphasis: Provide high level of management for dispersed recreation; moderate level of management for fire and landownership; low-moderate level of range management; moderate level of investment for facilities and soil and water improvement; and no commercial timber harvesting, fuelwood management, and wildlife habitat improvement. Recognize game preserve status and extend special consideration for wildlife values in resource decision-making.

Table 59. Land Classification in Management Area 15 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	18
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	18
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	2,608
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	
3. Forested land physically not-suitable	9,360
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	6,968
b. Suitable timberland not-appropriate for timber production	6,968
c. Suitable timberland appropriate for timber production	0
Total timberland suitable for timber production	0
Total forested land	18,936
Total non-forested land	18
Total forested land not-suitable for timber production	18,936
Total timberland suitable for timber production	0
Total National Forest Land	18,954

Table 60. Vegetative Treatment by Resource Activity in Management Area 15 in Planning Period 1

Resource Activity		Acres
Not-suitable forest land		
Pinyon-juniper woodland		
Seed cutting		0
Range non-structural improvement (seeding)		0
Wildlife non-structural improvement		0
Fuelwood (special cutting)	0	
Burning	0	
Planting and seeding	0	
Soil and watershed improvement (special cutting)		20
Seral grassland		
Wildlife non-structural habitat improvement		0
Range non-structural improvement - retreatment		0
Coniferous forest		
Wildlife non-structural improvement		0
Aspen (special cutting)	0	
Brush treatment	0	
Burning	0	
Planting and seeding	0	
Suitable timberland		
Coniferous forest		
Site preparation		0
Precommercial thinning		0
Intermediate harvest		0
Range non-structural improvement (seeding)		0
Seed cutting		0
Final removal cutting		0
Wildlife non-structural improvement		0
Burning	0	
Planting and seeding	0	

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Use traffic counts, trail counts, and visitor registration systems to determine dispersed recreation use (RIM reliability class 4). Use visitor counts and length of stay data to determine use of popular dispersed facilities and areas (RIM reliability class 3). Update ROS inventory and classifications at 5 year intervals beginning in 1990. Monitor ORV use during regular scheduled dispersed O&M patrols and revise the ORV plan if necessary to prevent resource damage and user conflicts. Prepare district recreation operation and maintenance plans annually for dispersed areas. Revise district dispersed recreation opportunity guides as necessary.

Prepare viewshed corridor plans for all sensitivity level 1 travel routes.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be

updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab National Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be

those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the National Forest Forest in planning period 1.

Initiate program for cultural resource survey of areas not scheduled for ground disturbing activities. Priority is given to areas with known or inferred high site densities.

Inventory the existing visual condition (EVC) and visual absorption capability (VAC) of the landscape during planning period 1.

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENT

Protect all cultural resource sites located in project areas through avoidance. Evaluate all sites for National Register eligibility on a priority basis. Priority is based upon preliminary indications of relative significance.

A06 FACILITY AND SITE CONSTRUCTION

Construct water developments, one dual toilet, signing, clearing, spot surfacing, road drainage and improvement of immediate access roads at the following locations in planning period 1:

Big Springs	T37N, R1W, S12 and 13

A07 FACILITY AND SITE MANAGEMENT

Provide information services at district offices during the recreation season. Prepare and distribute news releases regularly on dispersed and developed recreation opportunities. Prepare and publish brochures for specific dispersed recreation facilities.

A08 USE ADMINISTRATION

Operate and maintain heavily used dispersed areas and facilities to standard service management by providing regular scheduled patrols throughout the recreation season. Provide control measures for areas where the following resource damage occurs: (1) soil compaction, (2) loss of vegetative cover, (3) tree damage and mortality, and (4) deterioration of water quality.

Visitor occupancy is restricted to 14 days in any 30-day period.

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Inspect dispersed recreation trails annually. Maintain trails to maintenance level 3 or higher (as defined in FSH 1309.11a 1986-1990).

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

Survey and evaluate assessment areas during project design and plan projects to achieve the following habitat objectives:

Provide forage cover ratios between 40:60 to 60:40.

Snags:
1. Ponderosa pine: not less than 180 snags, 14 inches and larger DBH and 15 feet in height, per 100 acres over 40 percent of the forested area.
2. Pinyon-juniper: not less than 100 snags, 9 inches and larger DRC and 12 feet in height, per 100 acres over 40 percent of the forested area.

Achieve snag habitat objectives based on the specific needs of the area through the use of the following practices by priority:
1. Protect and retain existing snags.
2. Intensively manage to meet habitat objectives on snag management emphasis areas (forest opening edges, water sources).
3. Promote recruitment by:
   a. Retain live disease free cavity trees.
   b. Retain culls and damaged trees.
4. Induce mortality
   a. Kill diseased trees.
   b. Kill healthy trees.

Turkey habitat:
1. Provide for not less than four turkey roost tree-groups per section in turkey winter range and not less than two turkey roost tree-groups per section in turkey summer range.
2. Emphasize turkey winter habitat in areas within 40 chains of pine stringers. (Pine stringers are defined as non-contiguous, linear communities of predominately ponderosa pine, (up to 40 chains in width), that extend into the pinyon-juniper woodland below the typical elevational distribution of ponderosa pine).
3. Provide for a minimum of one cover structure per two acres within 40 chains of water for turkey nesting cover.

Raptor habitat:
Retain raptor nest tree-groups and a non-activity buffer around raptor nest sites as follows:
1. Goshawk: 8-chain buffer zone around the nest.
2. Cooper's hawk: 7-chain buffer zone around the nest.
3. Sharp-shinned hawk: 6-chain buffer zone around the nest.
4. Others: 3-chain buffer zone around the nest.
5. Protect verified bald eagle winter-roosts with a 5-chain buffer zone around the roost. Prohibit road development in the roost and buffer zone.

Hiding and thermal cover:
1. Provide for hiding and thermal cover in fawning areas.
2. Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.
3. Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Areas allocated for hiding cover will be not less than 10 chains in width.

Old-growth stands:

Allocate coniferous forest timber stands for old-growth habitats as specified in Table 61 and the following guidelines.

Table 61. Allocation of Coniferous Forest Stands in Management Area 15 for Old-Growth Habitat

Suitable timberland allocated to extended rotations for old-growth habitat:	Acres
1. Seedling and sapling	0
2. Poletimber	0
3. Immature sawtimber	0
4. Mature sawtimber	0
Unsuitable timberland allocated to old-growth habitat:	4,680
Total	4,680

1. Stand size is not less than 100 acres and five chains in width.
2. Stands allocated and selected for old-growth habitats will be well-distributed across the management area.
3. Any stand selected for old-growth habitat will be taken from the best stands in the assessment area. Criteria for defining best stands is developed from current biological literature.
4. Ponderosa pine:
   a. (1) Not less than 1,400 trees, 20 inches DBH or larger, per 100 acres on sites with an index greater than 54.
      (2) Not less than 1,400 trees, 14 inches DBH or larger, per 100 acres on sites with an index less than 54.
   b. Two stories with 60 square feet of basal area in the understory.
   c. Not less than 180 snags, 14 inches DBH and larger and 15 feet in height, per 100 acres.
   d. Not less than two down trees, 12 inches and larger in diameter and 16 feet or more in length, per acre.
5. Provide for the perpetuation of certain, mature or overmature ponderosa pine (yellow pine) stands that do not have either a two-storied vegetative condition or down-woody material. These stands possess late seral characteristics and it is desirable to maintain their open condition.
6. Mixed Conifer:
   a. Not less than 1,600 trees, 20 inches or larger at DBH, per 100 acres.
   b. Two-storied stands with not less than 100 square feet of basal area per acre in the understory.
   c. Not less than 300 snags, 20 inches or larger at DBH and 15 feet in height, per 100 acres.
   d. Not less than four down trees, 12 inches in diameter or larger and 16 feet in length, per 100 acres.
7. Pinyon-juniper:
   a. Not less than 3,000 trees, 9 inches DRC or larger, per 100 acres.
   b. Not less than 100 snags, 9 inches DRC or larger, per 100 acres.
   c. Not less than two down trees, 9 inches in diameter or larger and 10 feet in length, per acre.

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at level B. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan. Revise existing allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment re-analysis every 10 years on allotments where management has not corrected downward trends and changes in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 50 percent of the allotments. Conduct allotment re-analysis every 25 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments as having become a problem. At 15-year intervals, conduct production-utilization surveys.

Riparian vegetation:
1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing and add new structural improvements needed for the prescribed management level

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Inspect 50 percent of the allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES

Complete forest inventory on 18,954 acres and revise on a 10-year cycle.

E03 SILVICULTURAL EXAMINATION AND PRESCRIPTION

Complete stand delineation, mapping, vegetative and condition class typing, and acreage assignment for all lands in the management area. Maintain EDP stand information system. Apply standards and guidelines on an assessment area basis (approximately 10,000 acres), rather than on an individual timber sale basis, to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

E06 TIMBER SALE PREPARATION

Make commercial and personal-use fuelwood, and miscellaneous forest product sales in accordance with Table 60 and the standards and guidelines for F03 Improvement.

Utilization standards: Fuelwood sizes vary by objectives.

E07 TIMBER HARVEST ADMINISTRATION

Administer commercial and personal-use permits for fuelwood and miscellaneous forest products. This includes accountability, financial management, field inspections, and contract interpretation and enforcement. Close local roads until the next entry by signing and physical obstructions such as gates or barriers. Obliterate temporary roads and return them to production. Impose temporary ORV restrictions until revegetated.

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) in 1987; complete watershed condition inventories in 1990.

F02 PLANNING

Develop watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process in 1995.

F03 IMPROVEMENT

Implement land treatment and structural measures as specified in Table 60 and in accordance with the following guidelines. Land treatment measures are (1) close and revegetate 2 acres of system roads identified for obliteration in the transportation inventory; and (2) 20 acres of ground cover improvement in the following soil mapping units: 8, 17, 27, 30, 32, 40, 250, 251, 263, 264, 272, 273, 280, 281, 632, and 634.

1. Created opening is not larger than 40 acres.
2. Maximum width of the opening is 10 chains.
3. Maximum sight distance within the opening is 15 chains.
4. Minimum distance between any two openings is 10 chains
6. Exclude livestock from treated areas for not less than two growing seasons.
7. Visual resource management standards to meet retention visual quality objective for Highway 89A are:
    a. Stand size is two to 10 acres in the coniferous forest and two to 40 acres in the woodland type.
    b. Span of stand along corridor is not to exceed five chains in the coniferous forest and ten chains in the woodland type.
    c. Complete cleanup of activity slash within three months of treatment.
8. Visual resource management standards to meet partial retention visual quality objective for FDR 422, 429 and 462 are:
    a. Stand size is two to 40 acres.
    b. Span of stand along corridor is not to exceed ten chains.
    c. Complete cleanup of activity slash within one year of treatment.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined (after problem assessment, examination of the alternatives and appropriate review by local or State agencies and public participation) to be the most effective practicable means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatible with water quality goals. These practices are involved in activities affecting the Forest and grassland resource and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Stream courses will be designated within timber sales to protect watershed values. This protection will include controls on skidding within riparian areas and along or across designated stream courses.
3. Rehabilitation will be applied when needed to minimize loss of site productivity following activities or wildfire.

F05 RESOURCE INVENTORY REPORTS

Complete TES report in FY 1987.

F07 RIGHTS/USE MANAGEMENT

Obtain water rights before developing new waters. Annually update the forest water uses, requirements and rights inventory.

RESOURCE MANAGEMENT PRACTICE: Minerals Management

Work Activity and Standard and Guideline

G03 PROCESSING OF EXPLORATION PROPOSALS

Impose operating constraints on leasable mineral prospecting and exploration activities in or adjecent to the following wildlife habitat components.

Habitat Component and Area of Restriction	Restriction	Approximate Season of Restriction
Within 20 chains of fawning areas.	No surface disturbance or occupancy.	April to June
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	No surface disturbance or occupancy.	April to July

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special-use sites.	Areas of large capital investments. Yearlong for the effective term of the lease.	No surface disturbing activities.
Soil map units with slopes of 15 percent or greater.	Areas with moderate to high erosion potential. Yearlong, for the effective term of the lease.	Special mitigation measures required for surface disturbing activities.
Within 10 chains of all sites listed on National Register.	Protection of historic values. Yearlong, for the effective term of the lease.	No surface disturbance or occupancy.
Individual colonies of T&E and sensitive plants.	Limited plant populations require protection. Yearlong, for the effective term of the lease.	No casual uses, surface distrubance or occupancy.
Within one mile of T&E raptor nest sites.	Nesting activities highly susceptible to disturbance. March to July, for the effective term of the lease.	No surface disturbance or occupancy.
10 chain wide corridor along along Highway 89A.	Areas visually sensitive to any alteration. Yearlong, for effective term of the lease.	No surface disturbing activities.
Within 10 chains of developed recreation sites.	Areas visually sensitive to any alteration. May to October for the effective term of the lease.	No surface disturbing activities.

Area of Restriction	Reason and Duration of Restriction	Restriction
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	Nesting activities highly susceptible to disturbance. April to July, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of fawning sites.	Fawning activities highly susceptible to disturbance. April to June for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of permanent water sources.	Allow unrestricted access to water sources. Year-long for the effective term of the lease.	No surface disturbing activities or occupancy.

Discontinue common variety mineral material disposals from existing sources, rehabilitate existing material pits, and prevent development of potential sites in:

1. Ten chain wide corridor along Highway 89A.
2. Within 20 chains of turkey and raptor nest sites, fawning areas, and permanent water sources.
3. Areas with semi-primitive or semi-primitive motorized ROS classifications.

G05 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral developments based on:

1. Integration with other resource management uses.
2. Avoidance of wildlife habitats including fawning areas, primary big game foraging and cover areas, turkey nesting and roost areas, and important aquatic habitats.
3. Impacts on visual quality objectives.
4. Impacts on areas of concentrated recreation use.
5. Avoidance of areas with ROS classifications of Semi-Primitive and Semi-Primitive motorized.

F01 SOIL AND WATER RESOURCE INVENTORY

Conduct level 2 soil inventory of mined areas scheduled for restoration.

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

G08 RESERVED AND OUTSTANDING RIGHTS

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT [NON-RECREATION]

J02 RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS

Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees and termination dates. Adjust fees based on fair market values at five year intervals of when permits or grants are re-issued. Update Land Use Reporting System during annual file reviews.

J05 LAND STATUS MAINTENANCE

Make initial land status entries when special use permits and right-of-way grants are issued or amended and when land conveyance cases are completed.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Facilities Management

Work Activity and Standard and Guideline

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORY

L02 ARTERIAL ROAD PRECONSTRUCTION

Design arterial roads at traffic service level B.

L03 ARTERIAL ROAD CONSTRUCTION ENGINEERING

L05 ARTERIAL ROAD RECONSTRUCTION

L06 COLLECTOR ROAD PRECONSTRUCTION

Design collector roads at traffic service level B.

L07 COLLECTOR ROAD CONSTRUCTION ENGINEERING

L09 COLLECTOR ROAD RECONSTRUCTION

L19 ROAD OPERATION

Road maintenance standards are:

1. Maintain commensurate share roads for intended commercial use.
2. Maintain local roads, closed to traffic, at maintenance level 1.
3. Maintain local service roads, open to traffic to at least a maintenance level 2.
4. Maintain local service roads, to dispersed recreation sites, at maintenance level 3 or higher.
5. Maintain signs with routine maintenance and replacement schedule based on inventory and field inspection.
6. Maintain arterial and collector roads at maintenance level 4 or 5.
7. Maintain local service roads with more than 50 ADT at maintenance level 3.

L24 FA & O CONSTRUCTION/RECONSTRUCTION

L25 FA & O FACILITIES MAINTENANCE

L46 POTABLE WATER SYSTEM ADMINISTRATION AND MANAGEMENT

L47 WASTEWATER SYSTEM ADMINISTRATION AND MANAGEMENT

P11 TREATMENT OF ACTIVITY FUELS

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Minimize fire fighting costs on low intensity fires (less than 200 btu/ft/sec). Minimize acreage burned by high intensity fires (200+ btu/ft/sec).
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. The maximum average annual burned area is 20 acres.
5. The maximum fire size objective is 20 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

1. Direct attack and control all high intensity fires.
2. Economically contain low intensity fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed size objective are considered escaped fires and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA considers at least the following:

1. Resource management emphasis of threatened management areas.
2. Suppression cost commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Potential resource loss.
7. Elapsed time for vegetative recovery.
8. Impacts on cultural resources.

P12 TREATMENT OF NATURAL FUELS

1. Maintain existing fuelbreaks and fuel reduction corridors.
2. Reduce fuel loading in high hazard or high risk areas.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 16: 101,109 ACRES

This management area is located in the middle of the North Kaibab Ranger District in the Kanab Creek watershed. It is part of an elevated plain dissected by numerous drainage systems. Elevations range from 7,220 feet to 8,200 feet. Drainage systems are well-defined and flows are ephemeral.

Almost all of the soils in this management area are moderately deep and well suited for management actions. Climate within this area is characterized by relatively dry spring and fall seasons. Moisture deficits occur during much of the growing season. Precipitation ranges from 18 inches to 22 inches with a mean of 20 inches. Precipitation totals are equal between summer and winter months.

Ponderosa pine is present in majority in this management area: there are 16,972 acres of suitable seedlings and saplings; 32,864 acres of mature sawtimber; and 12,202 acres of overmature sawtimber. Aspen is also present in pure stands and as a component of the overstory and understory vegetation. Understory forage species include mutton bluegrass, blue grama, squirreltail, junegrass, Carex sp., and mountain muhly. The mixed conifer type is also present: there are 4,630 acres of suitable seedlings and saplings and 21,606 acres of overmature sawtimber. In thinned mixed conifer stands, important forage producers include pine dropseed, tall oatgrass, weeping brome, and smooth brome. The forb component is dominated by yarrow, ragweed, columbine, sandwort and cinquefoil. In dense mixed conifer stands, carex and the forb component is essentially the only understory vegetation. In addition, 12,835 acres of ponderosa pine and mixed conifer stands are unsuitable.

In the ponderosa pine vegetation type it is estimated that 50 percent of the timber stands are infected with dwarf mistletoe. Dwarf mistletoe characteristically occurs as scattered, heavy infection centers separated by relatively mistletoe-free areas. In mixed conifer vegetation type, the western spruce budworm is causing widely scattered damage. Other endemic insects include western pine beetle, pandora moth, mountain pine beetle, and Ips beetle.

Timber management problems in this area are dwarf mistletoe, spruce budworm, condition class distribution, lack of habitat diversity, and visual sensitivity.

Wildlife: The lower elevations of the area are important fall and spring big game range and the upper portions are important summer range. This area has more potential Kaibab squirrel habitat than any other management area in the district. Significant old-growth habitat and thermal cover remains along Highway 67; however its effectiveness is impaired because of vehicular disturbance and road impacts. Much of the forested area, not in the highway corridor, has very little stand diversity, quality old-growth habitat, thermal cover, goshawk habitat and high quality squirrel habitat. The snag density in the area is inadequate. Pure aspen stands, historically have been the best foraging areas; almost all of these stands have been invaded by conifers which have suppressed the diversity and abundance of the forage resource. The meadows (many of which were wet meadows) were severely overgrazed by livestock and deer prior to 1955; however the plant composition has not reverted to its former state of tall perennial grasses and forbs in spite of 30 years of light grazing and browsing. Small riparian areas and wetlands are present in the management area. All of this management area is in the Grand Canyon National Game Preserve.

The management indicator species are mule deer, Kaibab squirrel, turkey, goshawk, pygmy nuthatch, and yellow-bellied sapsucker,red squirrel, hairy woodpecker

Minerals: The management area has moderate to high potential for uranium, but the entire unit is closed to entry under the mining laws.

Oxidized copper ores were produced from numerous prospects in the Jacob Lake and Warm Springs area until 1950. The United States acquired the surface estate of these copper properties through land exchanges; however the mineral rights are reserved to third parties until 2000. Occasional prospecting of these properties is expected to continue.

The area has low to moderate potential for oil and gas. Oil and gas leases have been issued for portions of the unit north of Jacob Lake. Recommendations, including any special surface use stipulations, must be made to accomodate future lease proposals. Oil and gas prospecting activities, and possibly exploration, are likely to continue.

Mineral material sources located in the area are maintained for in-service use.

Land ownership management: The Cooper Ridge communication electronic site, the Jacob Lake broadcast electronic site and VT Airstrip are located within the unit.

Visual resources: The corridor along Highway 67 lies entirely within the management area. This highway provides the only access for the 250,000 annual visitors to the north rim area of Grand Canyon National Park. A special designation by the State of Arizona calls for maintenance of the scenic qualities of this corridor.

Vegetative types in the unit are aspen, ponderosa pine, mixed conifer and open grassland. This mix of vegetative types provides opportunities to maintain and enhance visual diversity along Highway 67. Resource management practices can adversely affect the visual resources of the Highway 67 corridor if work activities are not modified in terms of timely completion of the project, stand size, stand distribution, stand shape, vegetative composition, and distribution of stand age classes.

Cultural resources: High densities of cultural resource sites are encountered along the edges of the large open parks within the unit. Low site densities are typical for the remaining portions of the unit. Inventoried cultural resource sites have not been evaluated for long term management.

Recreation: Recreation use within the unit is high and it is concentrated along Highway 67 which provides access to Grand Canyon National Park. The drive from Jacob Lake to the north rim is renowned for its scenic quality, particularly during the fall season, when stands of aspen provide striking contrast with intermingled coniferous stands. Many popular dispersed camping sites are in the highway corridor.

Range: This area includes open grassy parks or dry meadows and burned areas surrounded by timber which furnish grazing capacity on summer range. Some openings have been revegetated with grass to increase forage production. Opportunities exist to enhance forage production and watershed conditions by seeding stands to grasses and forbs following intermediate timber harvests. Permitted grazing use is in balance with estimated grazing capacity. There are 26,201 acres of full capacity range, of which 10,380 acres are in satisfactory condition, and 15,821 acres are in unsatisfactory condition. Range improvements consist of fences, water developments, and forage improvement areas; their maintenance and replacement is necessary to maintain grazing capacity.

Facilities: Access to this area is via Highway 89A, Highway 67 (Forest Highway 1), and FDR 205, 429, and 462. Highway 67 is a paved, two-lane, road running from Jacob Lake to the north rim in Grand Canyon National Park. Reconstruction of Highway 67 is scheduled in the next five years. Additional access for forest protection, resource utilization, and management is provided by the local road system. There are 518 miles of local roads in the area with a local road density of 3.28 miles per square mile.

The DeMotte Park Administrative Site is located in the area and currently provides housing and storage facilities. A new administrative site is proposed with crew quarters, work, and storage facilities. A new administrative site is under construction at Jacob Lake. This site provides crew quarters, work, and storage facilities. The new site replaces the existing administrative site at Jacob Lake. The old ranger station and barn are maintained for their historic value.

Fire Management: The fuel profile is conducive for large high intensity fires; therefore a very high protection emphasis is warranted for this management area. The opportunity exists to relax protection standards for low intensity fires; however prompt suppression is necessary when the threat of high intensity fires is coupled with the potential for very high resource damage.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 16

Management emphasis: Provide for high level of management for dispersed recreation (including visual resources); high level of investment for soil and water improvement; low-moderate level of investment for wildlife habitat improvement; moderate level of management for facilities and landownership; and low-moderate level of management for timber, range, and minerals. Recognize game preserve status and extend special consideration for wildlife values in resource decision-making.

Table 62. Land Classification in Management Area 16 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	2,739
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	2,739
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	0
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	0
3. Forested land physically not-suitable	10,096
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	88,274
b. Suitable timberland not-appropriate for timber production	0
c. Suitable timberland appropriate for timber production	88,274
Total timberland suitable for timber production	88,274
Total forested land	98,370
Total non-forested land	2,739
Total forested land not-suitable for timber production	10,096
Total timberland suitable for timber production	88,274
Total National Forest Land	101,109

Table 63. Vegetative Treatment by Resource Activity in Management Area 16 in Planning Period 1

Resource Activity		Acres
Not-suitable forest land		
Pinyon-juniper woodland		
Seed cutting		0
Range non-structural improvement (seeding)		0
Wildlife non-structural improvement		0
Fuelwood (special cutting)	0	
Burning	0	
Planting and seeding	0	
Soil and watershed improvement (special cutting)		0
Seral grassland		
Wildlife non-structural habitat improvement		900
Range non-structural improvement - retreatment		0
Coniferous forest		
Wildlife non-structural improvement		1,720
Aspen (special cutting)	100	
Brush treatment	0	
Burning	460	
Planting and seeding	1,160	
Suitable timberland		
Coniferous forest		
Site preparation		9,244
Precommercial thinning		10,584
Intermediate harvest		27,130
Range non-structural improvement (seeding)		4,710
Seed cutting		9,244
Final removal cutting		8,029
Wildlife non-structural improvement		15,880
Burning	10,880	
Planting and seeding	5,000	

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Use traffic counts, trail counts, and visitor registration systems to determine dispersed recreation use (RIM reliability class 4). Use visitor counts and length of stay data to determine use of popular dispersed facilities and areas (RIM reliability class 3). Update ROS inventory and classifications at 5-year intervals beginning in year 1990. Monitor ORV use during scheduled patrols and revise the ORV plan to prevent resource damage and user conflicts. Prepare district recreation operation and maintenance plans annually for dispersed areas. Revise district dispersed recreation opportunity guides as necessary.

Prepare viewshed corridor plans for all sensitivity level 1 travel routes.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be

updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab National Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be

those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete Cultural Resource overview documents for the Kaibab National Forest in planning period 1.

Inventory existing visual condition (EVC) and visual absorption capability (VAC) of the landscape during planning period 1.

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENT

Protect all cultural resource sites located in project areas through avoidance. Evaluate all sites for National Register eligibility on a priority basis. Priority is based upon preliminary indications of relative significance.

A07 FACILITY AND SITE MANAGEMENT

Provide information services at district offices during the recreation season. Prepare and distribute news releases regularly on dispersed and developed recreation opportunities. Prepare and publish brochures for specific dispersed recreation facilities including hiking trails, scenic vista points, and water developments.

A08 USE ADMINISTRATION

Operate and maintain heavily used areas and facilities to standard service management by providing regular scheduled patrols throughout the recreation season. Provide control measures for areas where the following resource damage occurs: (1) soil compaction, (2) loss of vegetative cover, (3) tree damage and mortality, and (4) deterioration of water quality.

Close the following areas to off-road vehicle traffic:

Table 64. Off-Road Vehicle Area Closures in Management Area 16

Name	District	Acres	Reason for Restriction	Restricted Vehicle Type
Moquitch Canyon	No. Kaibab	700	Sens. soil	All except snow
Warm Spgs. Canyon	No. Kaibab	1,706	Sens. soil	All except snow
Pleasant Valley Pk.	No. Kaibab	741	Sens. soil-veg.	All except snow
DeMotte Park	No. Kaibab	1,190	Sens. soil-veg.	All except snow
Upper Tater Canyon	No. Kaibab	360	Sens. soil-veg.	All except snow

Visitor occupancy is restricted to 14 days in any 30-day period.

Maintain area camping closures around developed sites.

A11 TRAIL CONSTRUCTION

Allow private sector construction and operation of the Jacob Lake nordic ski trail and separate snowmobile trail system.

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Inspect dispersed recreation trails annually. Maintain trails to level 3 or higher (as defined in FSH 1309.11a 1986-1990).

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species, and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

Survey and evaluate assessment areas during project design and plan projects to achieve the following habitat objectives:

Provide forage cover ratios between 40:60 to 60:40.

Snags:
1. Ponderosa pine: not less than 180 snags, 14 inches and larger DBH and 15 feet in height, per 100 acres over 65 percent of the forested area.
2. Pinyon-juniper: not less than 100 snags, 9 inches and larger DRC and 12 feet in height, per 100 acres over 65 percent of the forested area.

Achieve snag habitat objectives based on the specific needs of the area through the use of the following practices by priority:
1. Protect and retain existing snags.
2. Intensively manage to meet habitat objectives on snag management emphasis areas (forest opening edges, water sources).
3. Promote recruitment by:
   a. Retain live disease free cavity trees.
   b. Retain culls and damaged trees.
4. Induce mortality
   a. Kill diseased trees.
   b. Kill healthy trees.

Turkey habitat:
1. Provide for not less than four turkey roost tree-groups per section in turkey winter range and not less than two turkey roost tree-groups per section in turkey summer range.
2. Emphasize turkey winter habitat in areas within 40 chains of pine stringers. (Pine stringers are defined as non-contiguous, linear communities of predominately ponderosa pine, up to 40 chains in width, that extend into the pinyon-juniper woodland below the typical elevational distribution of ponderosa pine).
3. Provide for a minimum of one cover structure per two acres within 40 chains of water for turkey nesting cover. Prohibit logging activities from April 15 to July 1 to protect nesting areas.

Spotted owl habitat:
1. Maintain 300 acres of contiguous core area habitat in occupied nest territory.
2. Maintain existing old-growth and down-woody material in each core area.

Raptor habitat:
Retain raptor nest tree-groups and a non-activity buffer around raptor nest sites as follows:

1. Goshawk: 8-chain buffer zone around the nest.
2. Cooper's hawk: 7-chain buffer zone around the nest.
3. Sharp-shinned hawk: 6-chain buffer zone around the nest.
4. Others: 3-chain buffer zone around the nest.
5. Protect verified bald eagle winter-roosts with a 5-chain buffer zone around the roost. Prohibit road development in the roost and buffer zone.

Hiding and thermal cover:

1. Provide for hiding and thermal cover in fawning areas. Prohibit logging activities from May 15 to July 1.
2. Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.
3. Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Areas allocated for hiding cover will be not less than 10 chains in width.

Old-growth stands:

Allocate coniferous forest timber stands for old-growth habitats as specified in Table 65 and the following guidelines.

Table 65. Allocation of Coniferous Forest Stands in Management Area 16 for Old-Growth Habitat

	Acres
Suitable timberland allocated to extended rotations for old-growth habitat:	
1. Seedling and sapling	2,713
2. Poletimber	2,713
3. Immature sawtimber	10,852
4. Mature sawtimber	10,852
Unsuitable timberland allocated to old-growth habitat:	5,050
Total	32,180

1. Stand size is not less than 100 acres and five chains in width.
2. Stands allocated and selected for old-growth habitats will be well-distributed across the management area.
3. Any stand selected for old-growth habitat will be taken from the best stands in the assessment area. Criteria for defining best stands is developed from current biological literature.
4. Ponderosa pine:
    a. (1) Not less than 1,400 trees, 20 inches DBH or larger, per 100 acres on sites with an index greater than 54.
        (2) Not less than 1,400 trees, 14 inches DBH or larger, per 100 acres on sites with an index less than 54.
    b. Two stories with 60 square feet of basal area in the understory.
    c. Not less than 180 snags, 14 inches DBH and larger and 15 feet in height, per 100 acres.
    d. Not less than two down trees, 12 inches and larger in diameter and 16 feet or more in length, per acre.
5. Provide for the perpetuation of certain, mature or overmature ponderosa pine (yellow pine) stands that do not have either a two-storied vegetative condition or down-woody material. These stands possess late seral characteristics and it is desirable to maintain their open condition.
6. Mixed Conifer:
    a. Not less than 1,800 trees, 20 inches or larger at DBH, per 100 acres.
    b. Two-storied stands with not less than 100 square feet of basal area per acre in the understory.
    c. Not less than 300 snags, 20 inches or larger at DBH and 15 feet in height, per 100 acres.
    d. Not less than four down trees, 12 inches in diameter or larger and 16 feet in length, per 100 acres.
7. Pinyon-juniper:
    a. Not less than 3,000 trees, 9 inches DRC or larger, per 100 acres.
    b. Not less than 100 snags, 9 inches DRC or larger, per 100 acres.
    c. Not less than two down trees, 9 inches in diameter or larger and 10 feet in length, per acre.

C02 NON-STRUCTURAL HABITAT IMPROVEMENT.

Do non-structural wildlife habitat improvements in accordance with Table 63 and the following guidelines using special cutting, burning, seeding, and planting:

Pinyon-juniper woodland:
1. Opening is not larger than 40 acres.
2. The maximum width of the opening is 10 chains.
3. The maximum sight distance within the opening is 15 chains.
4. The minimum distance between any two openings is 10 chains.
5. Retreat these areas by burning and seeding at 30-year intervals.
6. Exclude livestock from treated areas for not less than two growing seasons.

Aspen:
1. Treat 100 acres of aspen using special cutting.
2. Maximum size of any treatment area is four acres.
3. Restrict grazing of improvement areas to not more than one year in any three year period.
4. Remove Conifer understory during treatment.

Gambel oak:
1. Manage Gambel oak for increased hard-mast production, cavities, and deciduous forage volume to promote and enhance wildlife habitat.
2. Retain all standing oak trees eight inches and larger at DBH.
3. Make treatment of oak stands in conjunction with timber sale operations.

Visual resource management standards to meet retention visual quality objective for corridors along Highway 89A and Highway 67 (Kaibab Plateau North Rim Parkway) are:
1. Stand size is two to 10 acres.
2. Span of stand along the road is not to exceed five chains.
3. Provide for total cleanup of activity slash within three months of treatment.
4. Created opening is not to exceed two acres.

Visual resource management standards to meet partial retention visual quality objective for corridors along FDR 205, 422, 429, 461 and 462 are:
1. Stand size is two to 40 acres.
2. Span of stand along the road is not to exceed ten chains.
3. Provide for total cleanup of activity slash within one year of treatment.
4. Created opening is not to exceed four acres.

C03 STRUCTURAL HABITAT IMPROVEMENT

Do structural habitat improvement in accordance with the following guidelines:
1. Install protective fences, watering structures, brush piles, road closure devices, nesting structures, pothole developments, and kill trees to improve snag distribution.

2. Structural habitat improvement	structures
a. Wetland improvements: (waterfowl nesting islands, potholes)	50
b. Aquatic improvements: (earthen tank construction)	10
c. Water developments: (springs, guzzlers, trick tanks)	0

3. Prevent livestock access to 70 percent of the shoreline of the stock tanks that have stable water levels. Fence up to five acres and seed to low height cover species.
4. Provide for one permanent water source per square mile.
5. Install structures to recharge wet meadows and riparian areas.
6. Construct, improve, and, or stabilize lakes to improve lake habitat for desirable fish species.

P11 TREATMENT OF ACTIVITY FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 65 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at level B. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan. Revise existing allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment re-analysis every 10 years on allotments where management has not corrected downward trends and changes in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 50 percent of the allotments. Conduct allotment re-analysis every 25 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments as having become a problem. At 15-year intervals, conduct production-utilization surveys.

Riparian vegetation:

1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing and add new structural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Inspect 50 percent of the allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

Grazing use is not to exceed 30 percent forage utilization in key areas of Pleasant Valley and DeMotte parks. No additional range structural improvements are allowed in these areas.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES

Complete forest inventory on 101,109 acres and revise on a 10-year cycle.

E01 REGENERATION HARVEST (CONIFEROUS STANDS)

Apply even-age management in accordance with Table 63 and the following guidelines:

1. Stand size: minimum 10 acres, maximum 60 acres, and typical 30 acres.
2. Regenerate stands that have reached CMAI (culmination of mean annual increment) and have a stand DMR (dwarf mistletoe rating) of 2.1 or greater using the clearcutting method and planting.
3. Regenerate stands that have reached CMAI and have a stand DMR of 2.0 or less using the shelterwood seed cut. Reduce stand density to 30 GSL.
4. Do not make a seed cut in any stand adjacent to a seedling stand, sapling stand, or a stand in regeneration.

5. Make final removal harvests after stands classified as "in regeneration" are certified as satisfactorily stocked as specified under E04 Reforestation, below. Leave no live trees infected with dwarf mistletoe for potential snags.
6. Do not cut any tree larger than 42 inches at DBH.

E02 INTERMEDIATE HARVEST (CONIFEROUS STANDS)

Make intermediate cuts as specified in Table 63, Table 66, and the following guidelines:

Table 66. Acres of Intermediate Harvest in Management Area 16 in Planning Period 1

Growing Stock Level	Seedling-Sapling	Poletimber	Immature Sawtimber	Mature Sawtimber
60	0	0	4,710	0
90	5,038	0	0	17,387
Total Acres	5,038	0	4,710	17,387

1. Stand size: minimum 10 acres, maximum 60 acres, typical 30 acres.
2. Make intermediate harvests to specified growing stock levels (GSL) in stands with a DMR of 2.0 or less.
3. Complete logging activities and slash treatment in one season to control Ips beetle populations.
4. Maximize utilization of all trees cut during intermediate harvests.
5. Do not cut any tree larger than 42 inches at DBH.

E03 SILVICULTURAL EXAMINATION AND PRESCRIPTION

Complete stand delineation, mapping, vegetative and condition class typing, and acreage assignment for all lands in the management area. Maintain EDP stand information system. Apply standards and guidelines on an assessment area basis (approximately 10,000 acres), rather than on an individual timber sale basis, to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

E04 REFORESTATION

1. Prepare forest floor for regeneration, following seed cutting, with broadcast burning or other means, prior to first good cone-crop.
2. Make stocking surveys four and seven years following site preparation.
3. Make plantation survival surveys one, three, and five years following planting.
4. Satisfactory stocking is 120 to 350 trees per acre depending on, species, site class, and management objectives (Reference: FSM 2470).
5. Protect plantations until seedlings are established and assign no grazing capacity.

E05 TIMBER STAND IMPROVEMENT

Make precommercial thinning in sapling stands as specified in Table 63 and the following guidelines:

1. Complete timber stand improvement evaluation survey within one year following treatment.
2. Limit cutting to July through December in areas where Ips bark beetle problems are likely to occur.
3. Complete thinning activities and slash treatment in one season to control Ips beetle populations.
4. Maximize utilization of all trees cut during intermediate harvests.

E06 TIMBER SALE PREPARATION

Plan, prepare, and make commercial timber sales and permits for miscellaneous forest products as specified in Table 63, Table 66, and the standards and guidelines for E01 Regeneration Harvest (Coniferous stands) and E02 Intermediate Harvest (Coniferous stands). Make conifer residues in commercial timber sale areas available for personal-use fuelwood.

Utilization standards:

Sawtimber: 9-inch d.b.h. + to 6-inch d.i.b. top.
Topwood: 6-inch d.i.b. to 4-inch d.i.b.
Pulpwood: 5-inch d.b.h. + to 4-inch d.i.b. top.
Fuelwood: Sizes vary by objectives.

Visual resource management standards to meet retention visual quality objective for the corridors along Highway 89A and Highway 67 (the Kaibab Plateau North Rim Parkway) are:

1. Provide for the following distribution of condition classes within these corridors:
    a. Seedling and sapling 10 percent to 30 percent
    b. Immature poletimber and sawtimber 10 percent to 30 percent
    c. Mature sawtimber (Yellowpine) 60 percent to 80 percent
2. Stand size is two to 10 acres.
3. Span of stand along corridor is not to exceed five chains.
4. Complete cleanup of activity slash within three months of treatment.
5. Maintain existing overstory species composition of stands within corridor.

Visual resource management standards to meet partial retention visual quality objective for FDR 205, 422, 429, 461 and 462 are:

1. Provide for the following distribution of condition classes within these corridors:
    a. Seedling and sapling 10 percent to 30 percent
    b. Immature poletimber and sawtimber 10 percent to 30 percent
    c. Mature sawtimber (Yellowpine) 60 percent to 80 percent
2. Stand size is 2 to 40 acres.
3. Span of stand along corridor is not to exceed ten chains.
4. Complete cleanup of activity slash within one year of treatment.
5. Maintain existing overstory species composition of stands within corridor.

E07 TIMBER HARVEST ADMINISTRATION

Administer commercial and personal-use permits for fuelwood and miscellaneous forest products. This includes accountability, financial management, field inspections, and contract interpretation and enforcement. Close local roads until the next entry by signing and physical obstructions such as gates or barriers. Obliterate temporary roads and return them to production. Impose temporary ORV restrictions until revegetated.

E08 NURSERY MANAGEMENT

Maintain 10-year supply of seed from each zone for each species.

E09 GENETIC TREE IMPROVEMENT PROGRAM

Implement Forest and Southwestern Region tree improvement plans. Level 4 - ponderosa pine, level 1 - mixed conifer.

P11 TREATMENT OF ACTIVITY CREATED FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 65 percentile rate of spread in fuel model "K" (National Fire Danger Rating System). Preattack facilities are incorporated into other resource projects.

D03 RANGE NON-STRUCTURAL IMPROVEMENT

Seed stands, thinned to GSL of 60 or less and have a forage production rating of moderate or high, to forage species following intermediate cutting as specified in Table 63 and Table 66.

C01 WILDLIFE AND FISH, SURVEY, PLANNING, PRESCRIPTIONS, MONITORING, COOPERATION AND ADMINISTRATIONS

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORIES

L10 LOCAL ROAD PRECONSTRUCTION

L11 LOCAL ROAD CONSTRUCTION ENGINEERING

L14 TIMBER PURCHASER ROAD CONSTRUCTION

L19 ROAD OPERATION AND MAINTENANCE

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) in FY 1987; complete watershed condition inventories in FY 1990.

F02 PLANNING

Develop watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process in FY 1995.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined (after problem assessment, examination of the alternatives and appropriate review by local or State agencies and public participation) to be the most effective practicable means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatible with water quality goals. These practices are involved in activities affecting the Forest and grassland source and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Stream courses will be designated within timber sales to protect watershed values. This protection will include controls on skidding within riparian areas and along or across designated stream courses.
3. Rehabilitation will be applied when needed to minimize loss of site productivity following activities or wildfire.

F05 RESOURCE INVENTORY REPORTS

Complete TES report in FY 1987.

F07 RIGHTS/USE MANAGEMENT

Obtain water rights before developing new waters. Annually update the forest water uses, requirements and rights inventory.

RESOURCE MANAGEMENT PRACTICE: Mineral Management

Work Activity and Standard and Guideline

G03 PROCESSING OF EXPLORATION PROPOSALS

Impose operating constraints on leasable mineral prospecting and exploration activities in or adjacent to the following wildlife habitat components:

Habitat Component and Area of Restriction	Restriction	Approximate Season of Restriction
Within 20 chains of fawning areas.	No surface disturbance or occupancy.	April to June
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	No surface disturbance or occupancy.	April to July

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and "limited surface use stipulations" to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special use sites.	Areas of large capital investments. Yearlong, for the effective term of lease.	No surface disturbing activities.
Soil map units with slopes 15 percent or greater.	Areas with moderate to high erosion potential. Yearlong, for the effective of term of the lease.	Special mitigation measures required for surface disturbing activities.
Within 10 chains of all sites listed on National Register.	Protection of historic values. Yearlong, for the effective term of the lease.	No surface disturbance or occupancy.
Tree plantations.	Areas of large capital investments. Yearlong, for the effective term of the lease.	Replanting of areas impacted by surface disturbing activities required at cessation of project.
Individual colonies of T&E and sensitive plants.	Limited plant populations require protection. Yearlong, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within one mile of T&E raptor nest sites.	Nesting activities highly susceptible to disturbance. March to July, annually, for the effective term of the lease.	No surface disturbance or occupancy.
10 chain wide corridor and open meadows along Highways 89A, 67, FDR 205, 429, 462 and apd within 20 chains of the rim of the Grand Canyon.	Areas visually sensitive to any alteration. Yearlong, for the effective term of the lease.	No surface disturbing activities.
Within 10 chains of developed recreation sites.	Areas visually sensitive to any alteration. Yearlong, for the effective term of the lease.	No surface disturbing activities.
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	Nesting activities highly susceptible to disturbance. April to July, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of fawning areas.	Fawning activities highly susceptible to disturbance. April to June, annually, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of permanent water sources.	Allow unrestricted wildlife access to water sources. Yearlong, for the effective term of the lease.	No surface disturbing activities or occupancy.

Discontinue common variety mineral material disposals from existing sources, rehabilitate existing material pits, and prevent development of potential sites located in:
1. Ten chain-wide corridor along Highway 89A and Highway 67.
2. Within 20 chains of permanent water sources.
3. Areas with semi-primitive or semi-primitive motorized ROS classifications.

G05 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral developments based on:

1. Integration with other resource management uses.
2. Avoidance of wildlife habitats including fawning areas, primary big game foraging and cover areas, turkey nesting and roost areas, and important aquatic habitats.
3. Impacts on visual quality objectives.
4. Impacts on areas of concentrated recreation use.
5. Avoidance of areas with ROS classifications of semi-primitive and semi-primitive motorized.

F01 SOIL AND WATER RESOURCE INVENTORY

Conduct level 2 soil inventory of mined areas scheduled for restoration.

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

G08 RESERVED AND OUTSTANDING RIGHTS

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT (NON-RECREATION)

Manage VT Airstrip to maintain existing level of STOL aircraft use. Close VT Airstrip to public use.

Electronic site permittees shall comply with technical standards and development provisions of site management plans. Site authorizations are restricted to those types of electronic installations specified in site management plans. The following standards and guidelines apply to all classified electronic sites:

1. Maximize the number of compatible electronic uses on a minimum site area. If a proposed use can be accomodated on a site, but is incompatible with installations in existing buildings, additional buildings may be authorized. Additional buildings are subject to the same joint-use stipulations that apply to existing structures. The Forest Service reserves the right to issue a prospectus for the construction of any building on site.
2. Each non-exclusive permit reserves the right of the Forest Service to authorize other uses on the site, building, or antenna structures of the holder provided that such use does not interfere with holder's operations. Permittee improvements so used are entitled to reasonable compensation.
3. The Forest Service determines the combination of joint occupants, location of permittee improvements on site and the compatibility of users. Each proposed use is evaluated based on consideration of its impact on existing uses, potential future uses and demonstrated need.
4. A separate authorization must be issued for each electronic user.
5. Access development, improvement and maintenance shall be borne by a permittee or permittee association and must be authorized by a separate permit.
6. A Federal Communications Commission (FCC) license is required for all non-federal government permittees. Authority for enforcing the terms of an FCC license is vested in the FCC. Applicants are responsible for resolving interference problems with existing users. Within the terms of special-use permits and applicable regulations, the Forest Service reserves the right to determine which special-use permits or proposals must be terminated or denied when interference problems cannot be resolved.
7. Buildings and antennas are subject to painting, design and location requirements imposed by the Forest Service to meet visual quality objectives.
8. Permittees are required to organize and be members of a site users association.
9. Expansion of existing overhead utility corridors and construction of new overhead utility corridors is prohibited within site distance of Highways 87 and 89A.

J02 RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS

Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees and termination dates. Adjust fees based on fair market value at five year intervals or when permits or grants are re-issued. Update Land Use Reporting System during annual file reviews.

J05 LAND STATUS MAINTENANCE

Make initial land status entries when special use permits and right-of-way grants are issued or amended and when land conveyance cases are completed.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Facilities Management

Work Activity and Standard and Guideline

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORY

L02 ARTERIAL ROAD PRECONSTRUCTION

Design arterial roads at traffic service level B or A.

L03 ARTERIAL ROAD CONSTRUCTION ENGINEERING

L05 ARTERIAL ROAD RECONSTRUCTION

L06 COLLECTOR ROAD PRECONSTRUCTION

Design collector roads at traffic service level B or A.

L07 COLLECTOR ROAD CONSTRUCTION ENGINEERING

L09 COLLECTOR ROAD RECONSTRUCTION

L19 ROAD OPERATION

Road maintenance standards are:

1. Maintain commensurate share roads for intended commercial use.
2. Maintain local roads, closed to traffic, at maintenance level 1.
3. Maintain local service roads, open to traffic, to at least a maintenance level 2.
4. Maintain arterial and collector roads at maintenance level 4 or 5.
5. Maintain signs with routine maintenance and replacement schedule based on inventory and field inspection.
6. Maintain local service roads with more than 50 ADT and those to dispersed recreation sites, at maintenance level 3.
7. Replace surfacing at a rate of five percent per year.
8. Reestablish drainage and subgrade stabilization at a rate of two percent per year.

L24 FA & O CONSTRUCTION/RECONSTRUCTION

L25 FA & O FACILITIES MAINTENANCE

L46 POTABLE WATER SYSTEM ADMINISTRATION AND MANAGEMENT

L47 WASTEWATER SYSTEM ADMINISTRATION AND MANAGEMENT

P11 TREATMENT OF ACTIVITY FUELS

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Minimize fire fighting costs on low intensity fires (less than 200 btu/ft/sec). Minimize acreage burned by high intensity fires (200+ btu/ft/sec).
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. The maximum average annual burned area objective is 40 acres.
5. The maximum fire size objective is 20 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

1. Direct attack and control all high intensity fires.
2. Economically contain low intensity fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed size objective are considered escaped fires and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA considers at least the following:

1. Resource management emphasis of threatened management areas.
2. Suppression cost commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Potential resource loss.
7. Elapsed time for vegetative recovery.
8. Impacts on cultural resources.

Preattack facilities are incorporated into other resource projects.

P12 TREATMENT OF NATURAL FUELS

1. Maintain existing fuelbreaks and fuel reduction corridors.
2. Reduce fuel loading in high hazard and, or high risk areas.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 17: ACRES 40,797

This management area is located in the southeastern section of the North Kaibab Ranger District. This area is in the Houserock-Marble watershed; it is an elevated plain dissected by numerous drainage systems. Elevations range from 8,800 feet to 9,000 feet.

Soils, Climate and Vegetation: Soils in this management area are moderately deep and are well-suited for management actions. There are no major soil and water management problems in this management area.

The climate of this management area is characterized as cool and moist. Precipitation averages from 25 to 30 inches annually; 50 percent falls as snow.

Mixed conifer and spruce-fir vegetation cover the majority of this management area. Aspen is scattered throughout the area in pure stands and as a component of the overstory and understory vegetation. There are 3,828 acres of suitable seedlings and saplings, and 26,524 acres of overmature sawtimber in the mixed conifer. In thinned mixed conifer stands important forage producers are pine dropseed, tall oatgrass, weeping brome, and smooth brome; the forb component includes yarrow, ragweed, columbine, sandwort and cinquefoil. In dense mixed conifer stands, Carex sp. and the forb component is essentially the only understory vegetation. Ponderosa pine is also present in this management area. There are 352 acres of suitable seedlings and saplings, 4,554 acres of mature sawtimber, and 2,236 acres of overmature sawtimber; in addition, there are 3,007 acres of ponderosa pine and mixed conifer vegetation that is unsuitable.

In the mixed conifer type, western spruce budworm is causing widely scattered damage. Stem, root and butt rots also account for mortality and log defect. Defect exceeds 10 percent in old-growth spruce and fir. In the ponderosa pine type, it is estimated that 50 percent of the stands are infected with dwarf mistletoe. Other endemic insects include western pine beetle, mountain pine beetle, Ips beetle, and pandora moth.

Timber management problems in this area are spruce budworm, dwarf mistletoe, diversity and distribution of timber stands, condition class, species composition, and stocking levels.

Wildlife: The eastern part of this management area provides important roost sites for blue grouse and turkey. Small, scattered, riparian areas and wetlands are present in this area. All of this management area is in the Grand Canyon National Game Preserve.

The management indicator species are mule deer, Kaibab squirrel, red squirrel, goshawk, turkey, hairy woodpecker, pygmy nuthatch, and plain titmouse.

Minerals: The management area has moderate potential for uranium, however the entire unit is closed to entry under the mining laws.

The unit has low potential for oil and gas.

Visual resources: Visual quality objectives for most of the unit allow modification of the characteristic landscape. Visually sensitive areas in the unit are a small stretch of the Grand Canyon rim and the corridors along FDR 219, 610,and 611. Visual quality objectives for these areas allow for management activities that remain visually subordinate to the characteristic landscape.

Cultural resources: The unit typically contains low densities of cultural resource sites. Most of the area has been inventoried in conjunction with timber management activities; however inventoried cultural resource sites have not been evaluated to determine their significance or eligibility for listing on the National Register.

Recreation: Recreation use in the unit is low to moderate. Most use is concentrated in the southern portion of the unit adjacent to Grand Canyon National Park. Primary activities are associated with park visitation and include day-use of points overlooking the Grand Canyon and North Canyon and dispersed camping. The predomiate ROS class is roaded and natural appearing; however a portion of the unit is classified as semi-primitive motorized.

Inspection and maintenance of popular dispersed sites is necessary to preserve the natural setting of these areas and prevent resource damage. There are opportunities for constructing additional dispersed recreation attractions including improved access and interpretive facilities associated with scenic vistas.

Range: Summer range is provided by open timber stands, open grassy parks or dry meadows, windfall areas, old burned areas and clearcuts. Forage improvement openings have been revegetated with native and introduced grasses to increase grazing capacity and improve watershed condition. Permitted grazing use is in balance with estimated grazing capacity. There are 5,416 acres of full capacity range, of which 2,470 acres are in satisfactory condition, and 2,946 acres are in unsatisfactory condition. There are opportunities to increase forage production in this area by seeding timber stands following intermediate timber harvests. Range improvements consist of fences and water developments; their maintenance and replacement is necessary to sustain grazing capacity.

Facilities: Access to the area is via FDR 422 and 610. Additional access is provided by the local road system for forest protection, resource utilization, and management. There are 244 miles of local roads in the area with a local road density of 3.83 miles per square mile.

Fire Management: The fuel profile is conducive for large high intensity fires; therefore a very high protection emphasis is warranted. Opportunities exist to relax protection standards for low intensity fires; however prompt suppression is necessary when there is threat of high intensity fires and significant resource loss and damage.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 17

Management emphasis: Provide for moderate level of management for dispersed recreation, minerals, range, timber, fuelwood, and fire; low- moderate level of investment for wildlife habitat improvement; low-moderate level of management for facilities and landownership; and low level of investment for soil and water improvements. Recognize game preserve status and extend special consideration for wildlife values in resource decision-making.

Table 67. Land Classification in Management Area 17 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	86
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	86
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	210
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	210
3. Forested land physically not-suitable	3,007
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	37,494
b. Suitable timberland not-appropriate for timber production	0
c. Suitable timberland appropriate for timber production	37,494
Total timberland suitable for timber production	37,494
Total forested land	40,711
Total non-forested land	86
Total forested land not-suitable for timber production	3,217
Total timberland suitable for timber production	37,494
Total National Forest Land	40,797

Table 68. Vegetative Treatment by Resource Activity in Management Area 17 in Planning Period 1

Resource Activity		Acres
Not-suitable forest land		
Pinyon-juniper woodland		
Seed cutting		0
Range non-structural improvement (seeding)		0
Wildlife non-structural improvement		0
Fuelwood (special cutting)	0	
Burning	0	
Planting and seeding	0	
Soil and watershed improvement (special cutting)		0
Seral grassland		
Wildlife non-structural habitat improvement		60
Range non-structural improvement - retreatment		0
Coniferous forest		
Wildlife non-structural improvement		150
Aspen (special cutting)	150	
Brush treatment	0	
Burning	0	
Planting and seeding	0	
Suitable timberland		
Coniferous forest		
Site preparation		1,776
Precommercial thinning		642
Intermediate harvest		1,790
Range non-structural improvement (seeding)		873
Seed cutting		1,776
Final removal cutting		352
Wildlife non-structural improvement		3,500
Burning	2,150	
Planting and seeding	1,350	

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Use traffic counts, trail counts, and visitor registration systems to determine dispersed recreation use (RIM reliability class 4). Use visitor counts and length of stay data to determine use of popular dispersed facilities and areas (RIM reliability class 3). Update ROS inventory and classifications at 5-year intervals beginning in 1990. Monitor ORV use during scheduled patrols and revise the ORV plan to prevent resource damage and user conflicts. Prepare district recreation operation and maintenance plans annually for dispersed areas. Revise district dispersed recreation opportunity guides as necessary.

Prepare viewshed corridor plans for all sensitivity level 1 travel routes.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be

updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab National Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be

those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the Kaibab National Forest in planning period 1.

Inventory the existing visual condition (EVC) and visual absorption capability (VAC) of the landscape during planning period 1.

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENT

Protect all cultural resource sites located in project areas through avoidance. Evaluate all sites for National Register eligibility on a priority basis. Priority is based upon preliminary indications of relative significance.

A07 FACILITY AND SITE MANAGEMENT

Provide information services at district offices during the recreation season. Prepare and distribute news releases regularly on dispersed and developed recreation opportunities. Prepare and publish brochures for specific dispersed recreation facilities.

A08 USE ADMINISTRATION

Operate and maintain heavily used dispersed areas and facilities to standard service management by providing regular scheduled patrols throughout the recreation season. Provide control measures for areas where the following resource damage occurs: (1) soil compaction, (2) loss of vegetative cover, (3) tree damage and mortality, and (4) deterioration of water quality.

Close the following areas to off-road vehicle traffic:

Table 69. Off-Road Vehicle Area Closures in Management Area 17

Name	District	Acres	Reason for Restriction	Restricted Vehicle Type
Upper Tater Canyon	No. Kaibab	40	Sens. soil-veg.	All except snow
Pleasant Valley Park	No. Kaibab	400	Sens. soil-veg.	All except snow

Visitor occupancy is restricted to 14 days in any 30-day period.

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Inspect dispersed recreation trails annually. Maintain trails to maintenance level 3 or higher (as defined in FSH 1309.11a 1986-1990).

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangered species and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

Survey and evaluate assessment areas during project design and plan projects to achieve the following habitat objectives:

Provide forage cover ratios between 40:60 to 60:40.

Snags:
1. Ponderosa pine: not less than 180 snags, 14 inches and larger DBH and 15 feet in height, per 100 acres over 55 percent of the forested area.
2. Pinyon-juniper: not less than 100 snags, 9 inches and larger DRC and 12 feet in height, per 100 acres over 55 percent of the forested area.

Achieve snag habitat objectives based on the specific needs of the area through the use of the following practices by priority:
1. Protect and retain existing snags.
2. Intensively manage to meet habitat objectives on snag management emphasis areas (forest opening edges, water sources).
3. Promote recruitment by:
   a. Retain live disease free cavity trees.
   b. Retain culls and damaged trees.
4. Induce mortality
   a. Kill diseased trees.
   b. Kill healthy trees.

Turkey habitat:
1. Provide for not less than four turkey roost tree-groups per section in turkey winter range and not less than two turkey roost tree-groups per section in turkey summer range.
2. Emphasize turkey winter habitat in areas within 40 chains of pine stringers. (Pine stringers are defined as non-contiguous, linear communities of predominately ponderosa pine, up to 40 chains in width, that extend into the pinyon-juniper woodland below the typical elevational distribution of ponderosa pine).
3. Provide for a minimum of one cover structure per two acres within 40 chains of water for turkey nesting cover. Prohibit logging activities from April 15 to July 1 to protect nesting areas.

Peregrine falcon habitat:
1. Prohibit activities which disturb nesting birds in the vicinity of essential nesting habitat from March 15 to August 15. This period can be extended if the birds remain strongly attached to nest sites after August 15 .

Spotted owl habitat:
1. Maintain 300 acres of contiguous core area habitat in occupied nest territory.
2. Maintain existing old-growth and down-woody material in each core area.

Raptor habitat:
Retain raptor nest tree-groups and a non-activity buffer around raptor nest sites as follows:
1. Goshawk: 8-chain buffer zone around the nest.
2. Cooper's hawk: 7-chain buffer zone around the nest.
3. Sharp-shinned hawk: 6-chain buffer zone around the nest.
4. Others: 3-chain buffer zone around the nest.
5. Protect verified bald eagle winter-roosts with a 5-chain buffer zone around the roost. Prohibit road development in the roost and buffer zone.

Hiding and thermal cover:

1. Provide for hiding and thermal cover in fawning areas. Prohibit logging activities from May 15 to July 1.
2. Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.
3. Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Areas allocated for hiding cover will be not less than 10 chains in width.

Old-growth stands:

Allocate coniferous forest timber stands for old-growth habitats as specified in Table 70 and the following guidelines.

Table 70. Allocation of Coniferous Forest Stands in Management Area 17 for Old-Growth Habitat

Suitable timberland allocated to extended rotations for old-growth habitat:	Acres
1. Seedling and sapling	143
2. Poletimber	143
3. Immature sawtimber	752
4. Mature sawtimber	752
Unsuitable timberland allocated to old-growth habitat:	1,500
Total	3,290

1. Stand size is not less than 100 acres and five chains in width.
2. Stands allocated and selected for old-growth habitats will be well-distributed across the management area.
3. Any stand selected for old-growth habitat will be taken from the best stands in the assessment area. Criteria for defining best stands is developed from current biological literature.
4. Ponderose pine:
    a. (1) Not less than 1,400 trees, 20 inches DBH or larger, per 100 acres on sites with an index greater than 54.
        (2) Not less than 1,400 trees, 14 inches DBH or larger, per 100 acres on sites with an index less than 54.
    b. Two stories with 60 square feet of basal area in the understory.
    c. Not less than 180 snags, 14 inches DBH and larger and 15 feet in height, per 100 acres.
    d. Not less than two down trees, 12 inches and larger in diameter and 16 feet or more in length, per acre.
5. Provide for the perpetuation of certain, mature or overmature ponderosa pine (yellow pine) stands that do not have either a two-storied vegetative condition or down-woody material. These stands possess late seral characteristics and it is desirable to maintain their open condition.
6. Mixed Conifer:
    a. Not less than 1,600 trees, 20 inches or larger at DBH, per 100 acres.
    b. Two-storied stands with not less than 100 square feet of basal area per acre in the understory.
    c. Not less than 300 snags, 20 inches or larger at DBH and 15 feet in height, per 100 acres.
    d. Not less than four down trees, 12 inches in diameter or larger and 16 feet in length, per 100 acres.
7. Pinyon-juniper:
    a. Not less than 3,000 trees, 9 inches DRC or larger, per 100 acres.
    b. Not less than 100 snags, 9 inches DRC or larger, per 100 acres.
    c. Not less than two down trees, 9 inches in diameter or larger and 10 feet in length, per acre.

C02 NON-STRUCTURAL HABITAT IMPROVEMENT.

Do non-structural wildlife habitat improvements in accordance with Table 68 and the following guidelines using special cutting, burning, seeding, and planting:

Pinyon-juniper woodland:

1. Opening is not larger than 40 acres.
2. The maximum width of the opening is 10 chains.
3. The maximum sight distance within the opening is 15 chains.

4. The minimum distance between any two openings is 10 chains.
5. Retreat these areas by burning and seeding at 30-year intervals.
6. Exclude livestock from treated areas for not less than two growing seasons.

Aspen:
1. Treat 150 acres of aspen using special cutting.
2. Maximum size of any treatment area is four acres.
3. Restrict grazing in treated areas to not more than one year in any three year period.

Gambel oak:
1. Manage Gambel oak for increased hard-mast production, cavities, and deciduous forage volume to promote and enhance wildlife habitat.
2. Retain all standing oak trees eight inches and larger at DBH.
3. Make treatment of oak stands in conjunction with timber sale operations.

Visual resource management standards to meet partial retention visual quality objective for corridors along FDR 219, 610, 611, and within 20 chains of the rim of the Grand Canyon are:
1. Stand size is 10 to 60 acres.
2. Span of stand along the corridor is not to exceed ten chains.
3. Provide for total cleanup of activity slash within one year of treatment.
4. Created opening is not to exceed four acres.
5. Maintain existing overstory species composition of stands within corridor.

C03 STRUCTURAL HABITAT IMPROVEMENT

Do structural habitat improvement in accordance with the following guidelines:
1. Install protective fences, watering structures, brush piles, road closure devices, nesting structures, pothole developments, and kill trees to improve snag distribution.

2. Structural habitat improvement	structures
a. Wetland improvements: (waterfowl nesting islands, potholes)	30
b. Aquatic improvements: (earthen tank construction)	0
c. Water developments: (springs, guzzlers, trick tanks)	0

3. Prevent livestock access to 70 percent of the shoreline of the stock tanks that have stable water levels. Fence up to five acres and seed to low height cover species.
4. Provide for one permanent water source per square mile.
5. Install structures to recharge wet meadows and riparian areas.

P11 TREATMENT OF ACTIVITY FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 65 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at level D. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan. Revise existing allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment re-analysis every 10 years on allotments where management has not corrected downward trends and changec in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 70 percent of the allotments. Conduct allotment re-analysis every 20 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments as having become a problem. At 12-year intervals, conduct production-utilization surveys.

Riparian vegetation:

1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing and add new structural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Make inspections on 70 percent of the allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES

Complete forest inventory on 40,797 acres and revise on a 10-year cycle.

E01 REGENERATION HARVEST (CONIFEROUS STANDS)

Apply even-age management in accordance with Table 68 and the following guidelines:

1. Stand size: minimum 10 acres, maximum 60 acres, and typical 30 acres.
2. Regenerate stands that have reached CMAI (culmination of mean annual increment) and have a stand DMR (dwarf mistletoe rating) of 2.1 or greater using the clearcutting method and planting.
3. Regenerate stands that have reached CMAI and have a stand DMR of 2.0 or less using the shelterwood seed cut. Reduce stand density to 30 GSL.
4. Do not make a seed cut in any stand adjacent to a seedling stand, sapling stand, or a stand in regeneration.
5. Make final removal harvests after stands classified as "in regeneration" are certified as satisfactorily stocked as specified under E04 Reforestation, below. Leave no live trees infected with dwarf mistletoe for potential snags.
6. Do not cut any tree larger than 42 inches at DBH.

E02 INTERMEDIATE HARVEST [CONIFEROUS STANDS]

Make intermediate cuts as specified in the Table 68, Table 71, and the following guidelines:

Table 71. Acres of Intermediate Harvest in Management Area 17 in Planning Period 1

Growing Stock Level	Seedling-Sapling	Poletimber	Immature Sawtimber	Mature Sawtimber
60	0	0	873	0
90	165	0	0	752
Total Acres	165	0	873	752

1. Stand size: minimum 10 acres, maximum 60 acres, typical 30 acres.
2. Make intermediate harvests to specified growing stock levels [GSL] in stands with a DMR of 2.0 or less.
3. Complete logging activities and slash treatment in one season to control Ips beetle populations.
4. Maximize utilization of all trees cut during intermediate harvests.
5. Do not cut any tree larger than 42 inches at DBH.

E03 SILVICULTURAL EXAMINATION AND PRESCRIPTION

Complete stand delineation, mapping, vegetative and condition class typing, and acreage assignment for all lands acres] in the management area. Maintain EDP stand information system. Apply standards and guidelines on an assessment area basis [approximately 10,000 acres], rather than on an individual timber sale basis, to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

E04 REFORESTATION

1. Prepare forest floor for regeneration, following seed cutting, with broadcast burning or other means, prior to first good cone-crop.
2. Make stocking surveys four and seven years following site preparation.
3. Make plantation survival surveys one, three, and five years following planting.
4. Satisfactory stocking is 120 to 350 trees per acre depending on, species, site class, and management objectives [Reference: FSM 2470].
5. Protect plantations until seedlings are established and assign no grazing capacity.

E05 TIMBER STAND IMPROVEMENT

Make precommercial thinning in sapling stands as specified in Table 68 and the following guidelines:

1. Complete timber stand improvement evaluation survey within one year following treatment.
2. Limit cutting to July through December in areas where Ips bark beetle problems are likely to occur.
3. Complete treatment activities and slash treatment in one season to control Ips beetle populations.
4. Maximize utilization of all trees cut during intermediate harvests.

E06 TIMBER SALE PREPARATION

Plan, prepare, and make commercial timber sales and permits for miscellaneous forest products as specified in Table 68, Table 71, and the standards and guidelines for E01 Regeneration Harvest [Coniferous Stands] and E02 Intermediate Harvest [coniferous stands]. Make coniferous residue in commercial timber sale areas available for personal-use fuelwood.

Utilization standards:

Sawtimber: 9-inch d.b.h. + to 6-inch d.i.b. top.

Topwood: 6-inch d.i.b. to 4-inch d.i.b.
Pulpwood: 5-inch d.b.h. + to 4-inch d.i.b. top.
Fuelwood: Sizes vary by objectives.

Visual resource management standards to meet partial retention visual quality objective for FDR 219, 610, 611 and within 20 chains of the rim of the Grand Canyon are:

1. Provide for following condition class distribution within these corridors:

a.	Seedling and sapling	10 to 30 percent
b.	Poletimber and immature sawtimber	20 to 40 percent
c.	Mature sawtimber (yellow pine)	40 to 60 percent

2. Stand size is 10 to 60 acres.
3. Span of stand along corridor is not to exceed ten chains.
4. Total cleanup of activity slash within one year of treatment.
5. Created opening is not to exceed four acres.

E07 TIMBER HARVEST ADMINISTRATION

Administer commercial and personal-use permits for fuelwood and miscellaneous forest products. This includes accountability, financial management, field inspections, and contract interpretation and enforcement. Close local roads until the next entry by signing and physical obstructions such as gates or barriers. Obliterate temporary roads and return them to production. Impose temporary ORV restrictions until revegetated.

E08 NURSERY MANAGEMENT

Maintain 10-year supply of seed from each zone for each species.

E09 GENETIC TREE IMPROVEMENT PROGRAM

Implement forest and Southwestern Region tree improvement plans. level 4 - ponderosa pine, level 1 - mixed conifer.

P11 TREATMENT OF ACTIVITY CREATED FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 65 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

Preattack facilities are incorporated into other resource projects.

D03 RANGE NON-STRUCTURAL IMPROVEMENT

Seed stands, thinned to GSL of 60 or less and have a forage production rating of moderate or high, to forage species following intermediate cutting as specified in Table 68 and Table 71.

C01 WILDLIFE AND FISH, SURVEY, PLANNING, PRESCRIPTIONS, MONITORING, COOPERATION AND ADMINISTRATIONS

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORIES

L10 LOCAL ROAD PRECONSTRUCTION

L11 LOCAL ROAD CONSTRUCTION ENGINEERING

L14 TIMBER PURCHASER ROAD CONSTRUCTION

L19 ROAD OPERATION AND MAINTENANCE

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) in FY 1987. Complete watershed condition inventories in FY 1990.

F02 PLANNING

Develop watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process in FY 1995.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined (after problem assessment, examination of the alternatives and appropriate review by local or State agencies and public participation) to be the most effective practicable means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatible with water quality goals. These practices are involved in activities affecting the Forest and grassland resource and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Stream courses will be designated within timber sales to protect watershed values. This protection will include controls on skidding within riparian areas and along or across designated stream courses.
3. Rehabilitation will be applied when needed to minimize loss of site productivity following activities or wildfire.

F05 RESOURCE INVENTORY REPORTS

Complete TES report in FY 1987.

F07 RIGHTS/USE MANAGEMENT

Obtain water rights before developing new waters. Annually update the forest water uses, requirements and rights inventory.

RESOURCE MANAGEMENT PRACTICE: Minerals Management

Work Activity and Standard and Guideline

G03 PROCESSING OF EXPLORATION PROPOSALS

Impose operating constraints on leasable mineral prospecting and exploration activities in or adjacent to the following wildlife habitat components.

Habitat Component and Area of Restriction	Restriction	Approximate Season of Restriction
Within 20 chains of fawning areas.	No surface disturbance or occupancy.	April to June
Within 20 chains of raptor nest sites and 40 chains permanent water sources.	No surface disturbance or occupancy.	April to July

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special-use sites.	Areas of large capital investments. Yearlong, for the effective term of the lease.	No surface disturbing activities.
Soil map units with slopes of 15 percent or greater.	Areas with moderate to high erosion potential. Yearlong, for the effective term of the lease.	Special mitigation measures required for surface disturbing activities.
Within 10 chains of all sites listed on National Register.	Protection of historic values. Yearlong, for the effective term of the lease.	No surface disturbance or occupancy.
Tree plantations.	Areas of large capital investments. Yearlong, for the effective term of the lease.	Replanting of areas impacted by surface disturbing activities required at cessation of project.
Individual colonies of T&E and sensitive plants.	Limited plant populations require protection. Yearlong, for the effective term of the lease.	No casual uses, surface distrubance or occupancy.
Within one mile of T&E raptor nest sites.	Nesting activities highly susceptible to disturbance. March to July, for the effective term of the lease.	No surface disturbance or occupancy.
Within 20 chains of the rim of the Grand Canyon.	Areas visually sensitive to any alteration. Yearlong, for effective term of the lease.	No surface disturbing activities.
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	Nesting activities highly susceptible to disturbance. April to July, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of fawning sites.	Fawning activities highly susceptible to disturbance. April to June, annually, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of permanent water sources.	Allow unrestricted wildlife access to water sources. Yearlong, for the effective term of the lease.	No surface disturbing activities or occupancy.

Discontinue common variety mineral material disposals from existing sources, rehabilitate existing material pits, and prevent development of potential sites in:

1. Within 20 chains of permanent water sources.
2. Areas with semi-primitive or semi-primitive motorized ROS classifications.

G05 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral developments based on:

1. Construction, maintenance and hauling costs.
2. Integration with other resource management uses.
3, Monitoring of wildlife impacts and, or mitigation of habitat loss through habitat improvement projects.
4. Impacts on visual quality objectives.

5. Impacts on areas of concentrated recreation use.

F01 SOIL AND WATER RESOURCE INVENTORY

Conduct level 2 soil inventory of mined areas scheduled for restoration.

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT (NON-RECREATION)

J02 RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS

Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees and termination dates. Adjust fees based on fair market values at five year intervals or when permits or grants are re-issued. Update Land Use Reporting System during annual file reviews.

J05 LAND STATUS MAINTENANCE

Make initial land status entries when special use permits and right-of-way grants are issued or amended and when land conveyance cases are completed.

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

J11 LANDOWNERSHIP PLANNING

J12 LAND ADJUSTMENT PLANNING

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Facilities Management

Work Activity and Standard and Guideline

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORY

L02 ARTERIAL ROAD PRECONSTRUCTION

Design arterial roads at traffic service level C or B.

L03 ARTERIAL ROAD CONSTRUCTION ENGINEERING

L05 ARTERIAL ROAD RECONSTRUCTION

L06 COLLECTOR ROAD PRECONSTRUCTION

Design collector roads at traffic service level C or B.

L07 COLLECTOR ROAD CONSTRUCTION ENGINEERING

L09 COLLECTOR ROAD RECONSTRUCTION

L19 ROAD OPERATION

Road maintenance standardes are:
1. Maintain commensurate share roads for intended commercial use.
2. Maintain local roads, closed to traffic, at maintenance level 1.
3. Maintain local service roads, open to traffic, at maintenance level 2.
4. Maintain local service roads, to dispersed recreation sites, at maintenance level 3 Or higher.
5. Maintain signs to meet safety requirements.
6. Maintain arterial and collector roads at maintenance level 4 or 5.

P11 TREATMENT OF ACTIVITY FUELS

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Minimize fire fighting costs on low intensity fires (less than 200 btu/ft/sec). Minimize acreage burned by high intensity fires (200+ btu/ft/sec).
2. Minimize acreage burned within a two mile radius of North Canyon Spring.
3. Do not allow fires to spread to lands of other ownership.
4. Protect human life and improvements.
5. The maximum average annual burned area is 20 acres.
6. The maximum fire size objective is 20 acres except within a two mile radius of North Canyon Spring the size objective is five acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

1. Direct attack and control all high intensity fires and all fires within a two mile radius of North Canyon Spring.
2. Economically contain low intensity fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed size objective are considered escaped fires and appropriate response is determined by an Escaped Fire Situation Analysis (EFSA). The EFSA considers at least the following:
1. Resource management emphasis of threatened management areas.
2. Suppression cost commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Potential resource loss.
7. Elapsed time for vegetative recovery.
8. Impacts on cultural resources.

P12 TREATMENT OF NATURAL FUELS

1. Maintain existing fuelbreaks and fuel reduction corridors.
2. Reduce fuel loading in high hazard and, or high risk areas.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

MANAGEMENT AREA 18: 118,311 ACRES

This management area is located in the southwestern part of the North Kaibab Ranger District. This area is situated in Kanab Creek and North Rim Colorado watersheds. It is an elevated plain dissected by numerous drainages. Elevations range from 7,000 feet to over 9,000 feet.

Soils, Climate and Vegetation: The soils in this management area are moderately deep and suited for management actions. There are no soil and water management problems in this area.

The climate in the lower elevations of the area is characterized by relatively dry spring and fall seasons. Annual precipitation ranges from 18 to 22 inches and is equally divided between summer and winter. Climate in the higher elevations is cool and moist. Precipitation averages between 20 and 30 inches per year.

Mixed conifer and spruce-fir vegetation cover the majority of this management area. Aspen is scattered throughout the area in pure stands and as a component of the overstory and understory vegetation. There are in the mixed conifer: 12,590 acres of suitable seedlings and saplings, and 65,746 acres of overmature sawtimber. In thinned mixed conifer stands important forage producers are pine dropseed, tall oatgrass, weeping brome, and smooth brome; the forb component includes yarrow, ragweed, columbine, sandwort and cinquefoil. In dense mixed conifer stands, Carex sp. and the forb component is essentially the only understory vegetation. Ponderosa pine is also present, interspersed with Gambel oak, in this management area. There are 3,357 acres of suitable seedlings and saplings, 13,051 acres of mature sawtimber, and 12,198 acres of overmature sawtimber; in addition, there are 9,796 acres of ponderosa pine and mixed conifer vegetation that is not-suitable.

In the mixed conifer type, western spruce budworm is causing widely scattered damage. Stem, root and butt rots also account for mortality and log defect. Defect is in excess of 10 percent in old-growth spruce and fir. In the ponderosa pine type, it is estimated that 50 percent of the stands are infected with dwarf mistletoe. Other endemic insects include western pine beetle, mountain pine beetle, Ips beetle, and pandora moth.

Timber management problems in this area are spruce budworm, dwarf mistletoe, diversity and distribution of timber stands in terms of stand size, condition class , species composition, and stocking levels.

Wildlife: Pine stringers are a dominant feature in the southwestern part of this area and are important and valuable turkey habitat. The pine component along the eastern edge of the unit provides summer turkey and mule deer habitat and provides travelways between summer and winter ranges. There are numerous small clearcuts in the mixed conifer type which provide biotic diversity. Pure aspen stands have, historically, provided the best foraging areas; however invasion by conifers has suppressed the diversity and abundance of this forage resource. Narrow meadows are also being invaded and encroached by mixed conifer vegetation. Opportunities exist to maintain existing openings and develop additional openings. All of this management area is in the Grand Canyon National Game Preserve.

Management indicator species are turkey, mule deer, Kaibab squirrel, goshawk, red squirrel, plain titmouse, hairy woodpecker, pygmy nuthatch, and yellow-bellied sapsucker.

Minerals: The management area has moderate potential for uranium. The entire unit is closed to entry under the mining laws. The unit has low potential for oil and gas.

Visual resources: The wide range of vegetation types represented in the area provide visual diversity in sensitive corridors along FDR 422, 425, 462 and several other forest roads which access vista points on the rim of the Grand Canyon and other dispersed recreation attractions. The rim of the Grand Canyon from Timp Point northward to Parissawampitts Point is particularly sensitive to alteration. Visual quality objectives for these areas allow for management activities that are visually subordinate to the characteristic landscape. Visual quality objectives for the rest of the area allow resource management activites to dominate the landscape.

Cultural resources: The unit contains low to moderate densities of cultural resource sites. Most of the suitable timberland has been inventoried for cultural resource sites; however the inventoried cultural resource sites have not been evaluated for final disposition.

Recreation: Recreation use in the management area is low to moderate. Day-use of points overlooking the Grand Canyon and dispersed camping and viewing scenery during the fall season are the primary recreation activities. The entire management area is classified roaded and natural appearing.

Inspection and maintenance of popular dispersed sites is necessary to preserve the natural setting of these areas and prevent resource damage. There are opportunities for constructing additional dispersed recreation attractions including improved access and interpretive facilities for scenic vistas and hiking trails.

Range: Summer range is provided by open timber stands, open grassy parks or dry meadows, windfall areas, old burned areas and clearcuts. Forage improvement openings have been revegetated with native and introduced grasses to increase grazing capacity and improve watershed condition. Permitted grazing use is in balance with estimated grazing capacity. There are 6,103 acres of full capacity range, of which 2,783 acres are in satisfactory condition, and 3,320 acres are in unsatisfactory condition. There are opportunities to increase forage production in this area by seeding timber stands following intermediate timber harvests. Range improvements consist of fences and water developments; their maintenance and replacement is necessary to maintain grazing capacity.

Facilities: Access to this area is via FDR 206, 223, 422, 425, 429, 447, 482, 758, and 760. Additional access is provided by the local road system for forest protection, resource utilization and management. There are 626 miles of local roads in the area for a local road density of 3.39 miles per square mile. Dry Park lookout and cabin are located in the area and are maintained for fire detection.

Fire Management: The fuel profile is conducive for large high intensity fires; therefore a very high protection emphasis is warranted. Opportunities exist to relax protection standards for low intensity fires; however prompt suppression is necessary when there is threat of high intensity fires and significant resource loss and damage.

RESOURCE MANAGEMENT DIRECTION FOR MANAGEMENT AREA 18

Management emphasis: Provide for moderate level of management for dispersed recreation, minerals, range, timber, fuelwood, and fire; moderate level of investment for wildlife habitat improvement; low-moderate level of management for facilities and landownership; and low level of investment for soil and water improvements. Recognize game preserve status and extend special consideration for wildlife values in resource decision-making.

Table 72. Land Classification in Management Area 18 in Acres

Land Classification	Acres
Non-forested land	
1. Shrub-grassland	0
2. Seral grassland	613
3. Classified wilderness	0
4. Research natural area	0
Total non-forested land	613
Forested land	
1. Forested land withdrawn from timber production	
a. Classified wilderness	0
b. Existing recreation development sites	0
c. Proposed recreation development sites	0
d. Research natural area	0
Total forested land withdrawn from timber production	0
2. Forested land not capable of producing crops of industrial wood	
a. Pinyon-juniper not-suitable	960
b. Other non-suitable	0
Total forested land not capable of producing crops of industrial wood	960
3. Forested land physically not-suitable	9,796
4. Forested land - inadequate information	0
5. Timberland suitable for timber production	
a. Timberland tentatively suitable for timber production	106,942
b. Suitable timberland not-appropriate for timber production	0
c. Suitable timberland appropriate for timber production	106,942
Total timberland suitable for timber production	106,942
Total forested land	117,698
Total non-forested land	613
Total forested land not-suitable for timber production	10,756
Total timberland suitable for timber production	106,942
Total National Forest Land	118,311

Table 73. Vegetative Treatment by Resource Activity in Management Area 18 in Planning Period 1

Resource Activity		Acres
Not-suitable forest land		
Pinyon-juniper woodland		
Seed cutting		33
Range non-structural improvement (seeding)		33
Wildlife non-structural improvement		0
Fuelwood (special cutting)	0	
Burning	0	
Planting and seeding	0	
Soil and watershed improvement (special cutting)		0
Seral grassland		
Wildlife non-structural habitat improvement		200
Range non-structural improvement - retreatment		0
Coniferous forest		
Wildlife non-structural improvement		1,160
Aspen (special cutting)	160	
Brush treatment	300	
Burning	350	
Planting and seeding	350	
Suitable timberland		
Coniferous forest		
Site preparation		9,085
Precommercial thinning		3,664
Intermediate harvest		8,858
Range non-structural improvement (seeding)		2,532
Seed cutting		9,085
Final removal cutting		3,357
Wildlife non-structural improvement		14,960
Burning	6,460	
Planting and seeding	8,500	

RESOURCE MANAGEMENT PRACTICE: Recreation Management

Work Activity and Standard and Guideline

A01 RECREATION PLANNING

Use traffic counts, trail counts, and visitor registration systems to determine dispersed recreation use (RIM reliability class 4). Use visitor counts and length of stay data to determine use of popular dispersed facilities and areas (RIM reliability class 3). Update ROS inventory and classifications at 5-year intervals beginning in 1990. Prepare district recreation operation and maintenance plans annually for dispersed areas. Revise district dispersed recreation opportunity guides as necessary.

Prepare viewshed corridor plans for all sensitivity level 1 travel routes.

A02 INVENTORY

The Kaibab National Forest shall comply with the National Historic Preservation Act (NHPA) and with Executive Order (EO) 11593, and undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources shall be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview shall be prepared that covers all National Forest land. It shall be available at the Forest Supervisor and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment shall be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview shall be updated as required by new data and scientific research, by the management situation or by planning needs.

Information from the overview, and from other sources, shall be used to develop a framework for the identification, classification and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources shall be considered in detail in the cultural resources management planning assessment. These interactions shall be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking shall be evaluated in project-level analyses.

The standards specified in the settlement to Save the Jemez et al./State of New Mexico litigation shall apply. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook shall apply.

During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource shall be data recovery and interpretation.

Sites listed in, nominated to, eligible for, or potentially eligible for the National Register shall be managed during the conduct of undertakings to achieve a "No Adverse Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

The desirability of in-place preservation of cultural resources shall be weighed against the values of the proposed land use when resource management conflicts arise. Preservation of cultural resources in-place become increasingly important under the following conditions:

1. Present methods of investigation and data recovery cannot realize the current research potential of the sites;
2. The sites are likely to have greater importance for addressing future research questions than current ones;
3. The cultural values derive primarily from qualities other than research potential, and those values are fully realized only when the cultural remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
4. Cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
5. Preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
6. Site density makes data recovery economically infeasible, or requires unattainable operating conditions.

In cases where in-place preservation is important, the Kaibab National Forest shall give serious consideration to other management options such as project redesign, relocation or cancellation. The procedures specified in 36 CFR 800 shall be followed in reaching a management decision, and the minimum management standards shall be to achieve a "No Adverse Effect" finding.

Surface disturbing undertakings shall be managed to comply with 36 CFR 800 and the settlement to Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking shall be followed. The area of an undertaking's potential environmental impact shall be surveyed for cultural resources and areas of Native American religious use. Inventory standards are specified in the settlement document and in the Forest Service Handbook, and are determined in consultation with the SHPO. Native American groups shall be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, shall be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. Coordinating activities shall include (a) consultation and meetings, (b) sharing of data, plans, reports, interpretations and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

The Kaibab National Forest shall initiate a program for cultural resource survey of areas not scheduled for ground disturbing activities. Areas with highest priority for survey shall be those with known or inferred high site densities and those expected to contribute important information concerning the historic or prehistoric occupations of the Forest. Survey

priorities for specific areas shall be identified in the cultural resources management planning assessment. At a minimum, survey of such areas shall be conducted in conjunction with annual update training for para-professional archeologists as specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

The Kaibab National Forest shall participate in the development of a Cultural Resources Allocation Plan. The Plan shall be available in the Forest Supervisor and Regional offices. In consultation with the SHPO, sites shall be allocated to management categories and treated accordingly.

The Kaibab National Forest shall develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places through the cultural resources management planning assessment.

In consultation with the SHPO, identified sites shall be evaluated for eligibility for the National Register. Sites considered eligible shall be assigned a priority for nomination. Sites not yet evaluated shall be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. Nominating criteria shall be further refined through the cultural resources management planning assessment. Nominations shall be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan. Priorities for nomination shall be based on a consideration of these plans and the overall cultural resources program objectives.

The Kaibab National Forest shall nominate at least two individual sites per year for every full-time professional employed in the Kaibab's cultural resources management program. Alternatively, the Kaibab National Forest shall submit at least one district, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy shall be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction shall include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register shall be inspected biennially. Sites determined eligible for the National Register shall be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, shall be inspected on a need or opportunity basis, as specified in the settlement to Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration or human disturbance shall be inspected most frequently.

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, shall be listed in priority order for stabilization. This listing shall appear in the cultural resources management planning assessment. The list shall specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities shall be those specified in the settlement to Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, shall require planning for appropriate measures, such as stabilization or data recovery. Vandalism, collecting or illicit excavation shall require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, District displays, media communications, and stabilization or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence shall be held legally and financially liable for the costs of stabilization and repair.

A cultural resources professional shall inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20 percent of the sites, designated for protection within each undertaking shall be inspected by a cultural resources specialist, sale administrator, contracting officer's representative or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register shall be inspected. Inspection shall occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records shall be provided to the SHPO.

Each Forest Service contract, permit or lease that has the potential to affect cultural resources shall contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, shall apply.

Sites listed in or eligible for the National Register that need maintenance shall be described in detail in the cultural resources planning assessment. Stabilization and maintenance plans for these sites shall be developed.

The Forest Service shall develop on-site cultural resource interpretation of the Beale Wagon Road. Other interpretive opportunities, which may be pursued include:

1. Cultural resources displays in the Forest Supervisor and ranger district offices.
2. Preparation of popular literature, brochures and films regarding the cultural resources of the Kaibab National Forest.
3. Presentation of popular talks regarding the cultural resources of the Kaibab National Forest.
4. Professional cultural resource interpretation for presentation at meetings or dissemination through professional publications.

By April 1, 1988, the Forest Service shall identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities shall be reviewed and updated as appropriate.

Complete cultural resource overview documents for the Kaibab National Forest in planning period 1.

Inventory existing visual condition (EVC) and visual absorption capability (VAC) of the landscape in planning period 1.

A03 CULTURAL RESOURCE EVALUATION AND ASSESSMENT

Protect all cultural resource sites located in project areas through avoidance. Evaluate all sites for National Register eligibility on a priority basis. Priority is based upon preliminary indications of relative significance.

A06 FACILITY AND SITE CONSTRUCTION

Improve road access and construct and post interpretive signing for the Timp Point scenic vista during planning period 2:

A07 FACILITY AND SITE MANAGEMENT

Provide information services at district offices during the recreation season. Prepare and distribute news releases regularly on dispersed and developed recreation opportunities. Prepare and publish brochures for specific dispersed recreation facilities.

A08 USE ADMINISTRATION

Operate and maintain heavily used dispersed areas and facilities to standard service management by providing regular scheduled patrols throughout the recreation season. Provide control measures for areas where the following resource damage occurs: (1) Soil compaction, (2) loss of vegetative cover, (3) tree damage and mortality, and (4) deterioration of water quality.

Table 74. Off-Road Vehicle Area Closures in Management Area 18

Name	District	Acres	Reason for Restriction	Restricted Vehicle Type
Moquitch Canyon	No. Kaibab	1,018	Sens. soil	All except snow

Visitor occupancy is restricted to 14 days in any 30-day period.

A11 TRAIL CONSTRUCTION

Construct the following trail in planning period 1:

Name	Trail No.	Miles
Northside Rim Trail	10	15.1

A12 TRAIL SYSTEM MAINTENANCE AND OPERATION

Inspect dispersed recreation trails annually. Maintain trails to maintenance level 3 or higher (as defined in FSH 1309.11a 1986-1990).

RESOURCE MANAGEMENT PRACTICE: Fish and Wildlife Management

Work Activity and Standard and Guideline

C01 SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOP, AND ADMINISTRATION.

Survey habitat diversity, species composition, distribution and density of management indicator species, threatened and endangerd species and sensitive species. Evaluate habitat for those species in Threatened Native Wildlife in Arizona.

Apply standards and guidelines on an assessment area basis (approximately 10,000 acres) to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

Survey and evaluate assessment areas during project design and plan projects to achieve the following habitat objectives:

Provide forage cover ratios between 40:60 to 60:40.

Snags:
1. Ponderosa pine: not less than 180 snags, 14 inches and larger DBH and 15 feet in height, per 100 acres over 55 percent of the forested area.
2. Pinyon-juniper: not less than 100 snags, 9 inches and larger DRC and 12 feet in height, per 100 acres over 55 percent of the forested area.

Achieve snag habitat objectives based on the specific needs of the area through the use of the following practices by priority:
1. Protect and retain existing snags.
2. Intensively manage to meet habitat objectives on snag management emphasis areas(forest opening edges, water sources).
3. Promote recruitment by:
    a. Retain live disease free cavity trees.
    b. Retain culls and damaged trees.
4. Induce mortality
    a. Kill diseased trees.
    b. Kill healthy trees.

Turkey habitat:
1. Provide for not less than four turkey roost tree-groups per section in turkey winter range and not less than two turkey roost tree-groups per section in turkey summer range.
2. Emphasize turkey winter habitat in areas within 40 chains of pine stringers. (Pine stringers are defined as non-contiguous, linear communities of predominately ponderosa pine, up to 40 chains in width, that extend into the pinyon-juniper woodland below the typical elevational distribution of ponderosa pine).
3. Provide for a minimum of one cover structure per two acres within 40 chains of water for turkey nesting cover. Prohibit logging activities from April 15 to July 1 to protect nesting areas.

Peregrine falcon habitat:
1. Prohibit activities which disturb nesting birds in the vicinity of essential nesting habitat from March 15 to August 15. This period can be extended if the birds remain strongly attached to nest sites after August 15 .

Spotted owl habitat:

1. Maintain 300 acres of contiguous core area habitat in occupied nest territory.
2. Maintain existing old-growth and down-woody material in each core area.

Raptor habitat:

Retain raptor nest tree-groups and a non-activity buffer around raptor nest sites as follows:

1. Goshawk: 8-chain buffer zone around the nest.
2. Cooper's hawk: 7-chain buffer zone around the nest.
3. Sharp-shinned hawk: 6-chain buffer zone around the nest.
4. Others: 3-chain buffer zone around the nest.
5. Protect verified bald eagle winter-roosts with a 5-chain buffer zone around the roost. Prohibit road development in the roost and buffer zone.

Hiding and thermal cover:

1. Provide for hiding and thermal cover in fawning areas. Prohibit logging activities from May 15 to July 1.
2. Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.
3. Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Areas allocated for hiding cover will be not less than 10 chains in width.

Old-growth stands:

Allocate coniferous forest timber stands for old-growth habitats as specified in Table 75 and the following guidelines.

Table 75. Allocation of Coniferous Forest Stands in Management Area 18 for Old-Growth Habitat

Suitable timberland allocated to extended rotations for old-growth habitat:	Acres
1. Seedling and sapling	708
2. Poletimber	708
3. Immature sawtimber	3,720
4. Mature sawtimber	3,720
Unsuitable timberland allocated to old-growth habitat:	4,900
Total	13,756

1. Stand size is not less than 100 acres and five chains in width.
2. Stands allocated and selected for old-growth habitates will be well-distributed across the management area.
3. Any stand selected for old-growth habitat will be taken from the best stands in the assessment area. Criteria for defining best stands is developed from current biological literature.
4. Ponderosa pine:
   a. (1) Not less than 1,400 trees, 20 inches DBH or larger, per 100 acres on sites with an index greater than 54.
      (2) Not less than 1,400 trees, 14 inches DBH or larger, per 100 acres on sites with an index less than 54.
   b. Two stories with 60 square feet of basal area in the understory.
   c. Not less than 180 snags, 14 inches DBH and larger and 15 feet in height, per 100 acres.
   d. Not less than two down trees, 12 inches and larger in diameter and 16 feet or more in length, per acre.
5. Provide for the perpetuation of certain, mature or overmature ponderosa pine (yellow pine) stands that do not have either a two-storied vegetative condition or down-woody material. These stands possess late seral characteristics and it is desirable to maintain their open condition.
6. Mixed Conifer:
   a. Not less than 1,600 trees, 20 inches or larger at DBH, per 100 acres.
   b. Two-storied stands with not less than 100 square feet of basal area per acre in the understory.
   c. Not less than 300 snags, 20 inches or larger at DBH and 15 feet in height, per 100 acres.
   d. Not less than four down trees, 12 inches in diameter or larger and 16 feet in length, per 100 acres.

7. Pinyon-juniper:
    a. Not less than 3,000 trees, 9 inches DRC or larger, per 100 acres.
    b. Not less than 100 snags, 9 inches DRC or larger, per 100 acres.
    c. Not less than two down trees, 9 inches in diameter or larger and 10 feet in length, per acre.

C02 NON-STRUCTURAL HABITAT IMPROVEMENT.

Do non-structural wildlife habitat improvements in accordance with Table 73 and the following guidelines using special cutting, burning, seeding, and planting:

Pinyon-juniper woodland:
1. Opening is not larger than 40 acres.
2. The maximum width of the opening is 10 chains.
3. The maximum sight distance within the opening is 15 chains.
4. The minimum distance between any two openings is 10 chains.
5. Retreat these areas by burning and seeding at 30-year intervals.
6. Exclude livestock from treated areas for not less than two growing seasons.

Aspen:
1. Treat 160 acres of aspen using special cutting.
2. Maximum size of any treatment area is four acres.
3. Restrict grazing in treated areas to not more than one year in any three year period.

Gambel oak:
1. Manage Gambel oak for increased hard-mast production, cavities, and deciduous forage volume to promote and enhance wildlife habitat.
2. Retain all standing oak trees eight inches and larger at DBH.
3. Make treatment of oak stands in conjunction with timber sale operations.

Visual resource management standards to meet partial retention visual quality objective for corridors along FDR 206, 214, 271, 271A, 292, 293, 294, 422, 425, 429, 462, and within 20 chains of the Grand Canyon are:
1. Provide for the following distribution of condition classes in these corridors:
    a. Seedling and sapling — 10 to 30 percent
    b. Poletimber and immature sawtimber — 20 to 40 percent
    c. Mature sawtimber [yellow pine] — 40 to 60 percent
2. Stand size is 10 to 80 acres.
3. Span of stand along the corridor is not to exceed ten chains.
4. Provide for total cleanup of activity slash within one year of treatment.
5. Created opening is not to exceed four acres.

C03 STRUCTURAL HABITAT IMPROVEMENT

Do structural habitat improvement in accordance with the following guidelines:
1. Install protective fences, watering structures, brush piles, road closure devices, nesting structures, pothole developments, and kill trees to improve snag distribution.

2. Structural habitat improvement

	structures
a. Wetland improvements: [waterfowl nesting islands, potholes]	80
b. Aquatic improvements: [earthen tank construction]	0
c. Water developments: [springs, guzzlers, trick tanks]	0

3. Prevent livestock access to 70 percent of the shoreline of the stock tanks that have stable water levels. Fence up to five acres and seed to low height cover species.
4. Provide for one permanent water source per square mile.
5. Install structures to recharge wet meadows and riparian areas.

P11 TREATMENT OF ACTIVITY FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 65 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

RESOURCE MANAGEMENT PRACTICE: Range Management

Work Activity and Standard and Guideline

D01 RANGE RESOURCE PLANNING

Manage grazing allotments at level C; i.e. an allotment currently managed at level D continues at level D. Less than satisfactory range conditions are improved through completion of the range development program outlined in the allotment management plan. Revise existing allotment management plans every 10 years.

D02 RANGE RESOURCE INVENTORY

Conduct allotment re-analysis every 10 years on allotments where management has not corrected downward trends and changes in range conditions. Problem allotments are identified by condition and trend sampling during range inspections conducted annually on 70 percent of the allotments. Conduct allotment re-analysis every 20 years on allotments with improved range conditions and with a static or upward trend unless range inspections identify such allotments as having become a problem. At 12-year intervals, conduct production-utilization surveys.

Riparian vegetation:
1. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
2. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
3. Maintain not less than 90 percent of the potential shrub cover in high elevation riparian areas.
4. Maintain not less than 90 percent of total linear streambank in stable condition.

D05 RANGE STRUCTURAL IMPROVEMENTS

Replace existing and add new structural improvements needed for the prescribed management level.

D06 RANGE STRUCTURAL IMPROVEMENT - MAINTENANCE

Permittees maintain structural improvements as specified in the grazing permit.

D07 RANGE ADMINISTRATION AND MANAGEMENT

Administer all grazing permits annually. Inspect 70 percent of the allotments annually. Based on range studies and revised allotment management plans, adjust livestock numbers and grazing seasons to reflect actual capacity of the range. Bring permitted grazing use in line with grazing capacity on overstocked allotments by the end of this planning period.

RESOURCE MANAGEMENT PRACTICE: Timber Resource Management

Work Activity and Standard and Guideline

E00 TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES

Complete forest inventory on 118,311 acres and revise on a 10-year cycle.

E01 REGENERATION HARVEST (PINYON-JUNIPER STANDS)

Apply even-aged management using the shelterwood system in accordance with Table 73 and the following guidelines:
1. Stand size: Minimum 10 acres, maximum 100 acres. Typical stand size, 40 acres.
2. Regeneration units are not to exceed 10 chains in width and maximum site distance of 15 chains in length.
3. Seed cut to a minimum of 20 to 50 trees per acre, depending on the amount of advanced regeneration.
4. Final removal is done when seedlings are established and certified. Final removal stand size, 40 acres or smaller.
5. Do not make a seed cut in any stand adjacent to a seedling stand, sapling stand, or a stand in regeneration.

6. Stands allocated for fuelwood sales remain a component of the woodland timber base.

E01 REGENERATION HARVEST (CONIFEROUS STANDS)

Apply even-age management in accordance with Table 73 and the following guidelines:

1. Stand size: minimum 10 acres, maximum 60 acres, and typical 30 acres.
2. Regenerate stands that have reached CMAI (culmination of mean annual increment) and have a stand DMR (dwarf mistletoe rating) of 2.1 or greater using the clearcutting method and planting.
3. Regenerate stands that have reached CMAI and have a stand DMR of 2.0 or less using the shelterwood seed cut. Reduce stand density to 30 GSL.
4. Do not make a seed cut in any stand adjacent to a seedling stand, sapling stand, or a stand in regeneration.
5. Make final removal harvests after stands classified as "in regeneration" are certified as satisfactorily stocked as specified under E04 Reforestation, below. Leave no live trees infected with dwarf-mistletoe for potential snags.
6. Do not cut any tree larger than 42 inches at DBH.

E02 INTERMEDIATE HARVEST (CONIFEROUS STANDS)

Make intermediate cuts as specified in the Table 73, Table 76, and the following guidelines:

Table 76. Acres of Intermediate Harvest in Management Area 18 in Planning Period 1

Growing Stock Level	Seedling-Sapling	Poletimber	Immature Sawtimber	Mature Sawtimber
60	0	0	2,532	0
90	2,423	0	0	3,901
Total Acres	2,423	0	2,532	3,901

1. Stand size: minimum 10 acres, maximum 60 acres, typical 30 acres.
2. Make intermediate harvests to specified growing stock levels (GSL) in stands with a DMR of 2.0 or less.
3. Complete logging activities and slash treatment in one season to control *Ips* beetle populations.
4. Maximize utilization of all trees cut during intermediate harvests.
5. Do not cut any tree larger than 42 inches at DBH.

E03 SILVICULTURAL EXAMINATION AND PRESCRIPTION

Complete stand delineation, mapping, vegetative and condition class typing, and acreage assignment for all lands in the management area. Maintain EDP stand information system. Apply standards and guidelines on an assessment area basis (approximately 10,000 acres), rather than on an individual timber sale basis, to ensure distribution of habitat components throughout the range of dependent species. Utilize habitat attributes of unsuitable timberlands in adjacent assessment areas to meet assessment area objectives; however credit for any attribute from an adjacent area shall not satisfy more than one-third of the minimum habitat requirement for the assessment area. Improve stand diversity and habitat for wildlife through integrated stand management on lands allocated to timber or fuelwood management.

E04 REFORESTATION

1. Prepare forest floor for regeneration, following seed cutting, with broadcast burning or other means, prior to first good cone-crop.
2. Make stocking surveys four and seven years following site preparation.
3. Make plantation survival surveys one, three, and five years following planting.
4. Satisfactory stocking is 120 to 350 trees per acre depending on, species, site class, and management objectives (Reference: FSM 2470).
5. Protect plantations until seedlings are established and assign no grazing capacity.

E05 TIMBER STAND IMPROVEMENT

Make precommercial thinning in sapling stands as specified in Table 73 and the following guidelines:

1. Complete timber stand improvement evaluation survey within one year following treatment.
2. Limit cutting to July through December in areas where *Ips* bark beetle problems are likely to occur.
3. Complete logging activities and slash treatment in one season to control *Ips* beetle populations.
4. Maximize utilization of all trees cut during intermediate harvests.

E06 TIMBER SALE PREPARATION

Make commercial timber, commercial and personal-use fuelwood, and miscellaneous forest product sales in accordance with Table 73, Table 76, and the standards and guidelines for E01 Regeneration Harvest (Pinyon-juniper Stands), E01 Regeneratiobn Harvest (Coniferous Stands), and E02 Intermediate Harvest (Coniferous Stands). Make coniferous residue from commercial sale areas available for personal-use fuelwood.

Utilization standards:

Sawtimber: 9-inch d.b.h. + to 6-inch d.i.b. top.
Topwood: 6-inch d.i.b. to 4-inch d.i.b.
Pulpwood: 5-inch d.b.h. + to 4-inch d.i.b. top.
Fuelwood: Sizes vary by objectives.

Visual resource management standards to meet partial retention visual quality objective for FDR 206, 214, 271, 271A, 292, 293, 294, 422, 425, 429, 462, and within 20 chains of the rim of the Grand Canyon are:

1. Provide for following condition class distribution within these corridors:
   a. Seedling and sapling 10 to 30 percent
   b. Poletimber and immature sawtimber 20 to 40 percent
   c. Mature sawtimber (yellow pine) 40 to 60 percent
2. Stand size is 10 to 60 acres.
3. Span of stand along corridor is not to exceed ten chains.
4. Complete cleanup of activity slash within one year of treatment.
5. Maintain existing species composition of stands within corridor.

E07 TIMBER HARVEST ADMINISTRATION

Administer commercial and personal-use permits for fuelwood and miscellaneous forest products. This includes accountability, financial management, field inspections, and contract interpretation and enforcement. Close local roads until the next entry by signing and physical obstructions such as gates or barriers. Obliterate temporary roads and return them to production. Impose temporary ORV restrictions until revegetated.

E08 NURSERY MANAGEMENT

Maintain 10-year supply of seed from each zone for each species.

E09 GENETIC TREE IMPROVEMENT PROGRAM

Implement Forest and Southwestern Region Tree Improvement Plans. Level 4 - ponderosa pine, level 1 - mixed conifer.

P11 TREATMENT OF ACTIVITY CREATED FUELS

Activity created fuels are treated so that maximum size objectives can be met under the burning conditions which yielded the historical, 65 percentile rate of spread in fuel model "K" (National Fire Danger Rating System).

Preattack facilities are incorporated into other resource projects.

D03 RANGE NON-STRUCTURAL IMPROVEMENT

Seed stands, thinned to GSL of 60 or less and have a forage production rating of moderate or high, to forage species following intermediate cutting as specified in Table 73 and Table 76.

C01 WILDLIFE AND FISH, SURVEY, PLANNING, PRESCRIPTIONS, MONITORING, COOPERATION AND ADMINISTRATIONS

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORIES

L10 LOCAL ROAD PRECONSTRUCTION

L11 LOCAL ROAD CONSTRUCTION ENGINEERING

L14 TIMBER PURCHASER ROAD CONSTRUCTION

L19 ROAD OPERATION AND MAINTENANCE

RESOURCE MANAGEMENT PRACTICE: Soil and Water Management

Work Activity and Standard and Guideline

F01 INVENTORY

Complete Terrestrial Ecosystem Survey (TES) by 1987; complete watershed condition inventories by FY 1990.

F02 PLANNING

Develop watershed improvement plans based on TES, condition inventories, and in accordance with R-3 watershed improvement gate process by FY 1995.

F04 ADMINISTRATION

Through the use of best management practices, the adverse effect of planned activities will be mitigated and site productivity maintained. These practices are determined (after problem assessment, examination of the alternatives and appropriate review by local or State agencies and public participation) to be the most effective practicable means of preventing or reducing the amount of pollutants generated by non-point sources to levels compatible with water quality goals. These practices are involved in activities affecting the Forest and grassland resource and include:

1. Install water control structures and, or interseed on poor and very poor condition ranges where revegetation potential is moderately high to high on slopes less than 40 percent.
2. Stream courses will be designated within timber sales to protect watershed values. This protection will include controls on skidding within riparian areas and along or across designated stream courses.
3. Rehabilitation will be applied when needed to minimize loss of site productivity following activities or wildfire.

F05 RESOURCE INVENTORY REPORTS

Complete TES report by FY 1987.

F07 RIGHTS/USE MANAGEMENT

Obtain water rights before developing new waters. Annually update the forest water uses, requirements and rights inventory.

RESOURCE MANAGEMENT PRACTICE: Minerals Management

Work Activity and Standard and Guideline

G03 PROCESSING OF EXPLORATION PROPOSALS

Impose operating constraints on leasable mineral prospecting and exploration activities in or adjacent to the following wildlife habitat components.

Habitat Component and Area of Restriction	Restriction	Season of Restriction
Within 20 chains of fawning areas.	No surface disturbance or occupancy.	April to June
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	No surface disturbance or occupancy.	April to July

G04 PROCESSING OF LEASE APPLICATIONS

Use permit restrictions and limited surface use stipulations to protect the following surface resource values, special resources and uses for oil and gas leasing, prospecting, exploration and development proposals:

Area of Restriction	Reason and Duration of Restriction	Restriction
Recreation, administrative, and special-use sites.	Areas of large capital investments. Yearlong for the effective term of the lease.	No surface disturbing activities.
Soil map units with slopes of 15 percent or greater.	Areas with moderate to high erosion potential. Yearlong, for the effective term of the lease.	Special mitigation measures required for surface disturbing activities.
Within 10 chains of all sites listed on National Register.	Protection of historic values. Yearlong, for the effective term of the lease.	No surface disturbance or occupancy.
Tree plantations.	Areas of large capital investments. Yearlong, for the effective term of the lease.	Replanting of areas impacted by surface disturbing activities required at cessation of project.
Individual colonies of T&E and sensitive plants.	Limited plant populations require protection. Yearlong, for the effective term of the lease.	No casual uses, surface distrubance or occupancy.
Within one mile of T&E raptor nest sites.	Nesting activities highly susceptible to disturbance. March to July, for the effective term of the lease.	No surface disturbance or occupancy.
Within 20 chains from the rim of Grand Canyon.	Areas visually sensitive to any alteration. Yearlong, for effective term of the lease.	No surface disturbing activities.
Within 20 chains of raptor nest sites and 40 chains of permanent water sources.	Nesting activities highly susceptible to disturbance. April to July, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.
Within 20 chains of fawning areas.	Fawning activities highly susceptible to disturbance. April to June, for the effective term of the lease.	No casual uses, surface disturbance or occupancy.

Area of Restriction	Reason and Duration of Restriction	Restriction
Within 20 chains of permanent water sources.	Allow unrestricted access to water sources. Year-long for the effective term of the lease.	No surface disturbing activities or occupancy.

Discontinue common variety mineral material disposals from existing sources, rehabilitate existing material pits, and prevent development of potential sites in:

1. Within 20 chains of permanent water sources.
2. Areas with semi-primitive and semi-primitive motorized ROS classifications.

G05 PROCESSING OF SITE SPECIFIC DEVELOPMENT PROPOSALS

Evaluate transportation proposals for mineral developments based on:

1. Construction, maintenance and hauling costs.
2. Integration with other resource management uses.
3. Monitoring of wildlife impacts and, or mitigation of habitat loss through habitat improvement projects.
4. Impacts on visual quality objectives.
5. Impacts on areas of concentrated recreation use.

F01 SOIL AND WATER RESOURCE INVENTORY

Conduct level 2 soil inventory of mined areas scheduled for restoration.

G01 GENERAL TECHNICAL INVENTORY AND EVALUATION

G02 SITE-SPECIFIC TECHNICAL INVESTIGATIONS

G06 ADMINISTRATION OF OPERATIONS

G07 CONTESTS, HEARINGS, AND APPEALS

G08 RESERVED AND OUTSTANDING RIGHTS

RESOURCE MANAGEMENT PRACTICE: Landownership Management

Work Activity and Standard and Guideline

J01 SPECIAL USE MANAGEMENT [NON-RECREATION]

J02 RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS

Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees and termination dates. Adjust fees based on fair market values at five year intervals or when permits or grants are re-issued. Update Land Use Reporting System during annual file reviews.

J05 LAND STATUS MAINTENANCE

Make initial land status entries when special use permits and right-of-way grants are issued or amended and when land conveyance cases are completed.

J06 PROPERTY BOUNDARY LOCATION

J07 PROPERTY BOUNDARY AND CORNER MAINTENANCE

J11 LAND OWNERSHIP PLANNING

J12 LAND ADJUSTMENT PLANNING

J18 RIGHTS-OF-WAY ACQUISITION

Aquire the Park boundary right-of-way, 1.5 miles, FDR 268.

RESOURCE MANAGEMENT PRACTICE: Land Management Planning

Work Activity and Standard and Guideline

J22 FOREST LEVEL PLANNING

J23 RPA ASSESSMENT

RESOURCE MANAGEMENT PRACTICE: Facilities Management

Work Activity and Standard and Guideline

L01 TRANSPORTATION SYSTEM PLANNING AND INVENTORY

L02 ARTERIAL ROAD PRECONSTRUCTION

Design arterial roads at traffic service level C or B.

L03 ARTERIAL ROAD CONSTRUCTION ENGINEERING

L05 ARTERIAL ROAD RECONSTRUCTION

L06 COLLECTOR ROAD PRECONSTRUCTION

Design collector roads at traffic service level C or B.

L07 COLLECTOR ROAD CONSTRUCTION ENGINEERING

L09 COLLECTOR ROAD RECONSTRUCTION

L19 ROAD OPERATION

Road maintenance standards are:

1. Maintain commensurate share roads for intended commercial use.
2. Maintain local roads, closed to traffic, at maintenance level 1.
3. Maintain local service roads, open to traffic, at maintenance level 2.
4. Maintain local service roads, to dispersed recreation sites, at maintenance level 3 or higher.
5. Maintain signs to meet safety requirements.
6. Maintain arterial and collector roads at maintenance level 4 or 5.

L24 FA & O CONSTRUCTION/RECONSTRUCTION

L25 FA & O FACILITIES MAINTENANCE

L46 POTABLE WATER SYSTEM ADMINISTRATION AND MANAGEMENT

L47 WASTEWATER SYSTEM ADMINISTRATION AND MANAGEMENT

P11 TREATMENT OF ACTIVITY FUELS

RESOURCE MANAGEMENT PRACTICE: Fire Management

Work Activity and Standard and Guideline

P01 FIRE MANAGEMENT PLANNING AND ANALYSIS

1. Minimize fire fighting costs on low intensity fires (less than 200 btu/ft/sec). Minimize acreage burned by high intensity fires (200+ btu/ft/sec).
2. Do not allow fires to spread to lands of other ownership.
3. Protect human life and improvements.
4. The maximum average annual burned area is 60 acres.
5. The maximum fire size objective is 20 acres.

P08 INITIAL ATTACK FIRE SUPPRESSION

1. Direct attack and control all high intensity fires.
2. Economically contain low intensity fires.

P09 ESCAPED FIRE SUPPRESSION

Fires which exceed or are expected to exceed size objective are considered escaped fires and appropriate response is determined by an escaped fire situation analysis (EFSA). The EFSA considers at least the following:

1. Resource management emphasis of threatened management areas.
2. Suppression cost commensurate with resources protected.
3. Effects on air quality, aesthetics, soil, and watershed.
4. Social acceptance of acreage burned.
5. Current availability of suppression resources.
6. Potential resource loss.
7. Elapsed time for vegetative recovery.
8. Impacts on cultural resources.

P12 TREATMENT OF NATURAL FUELS

1. Maintain existing fuelbreaks and fuel reduction corridors.
2. Reduce fuel loading in high hazard and, or high risk areas.

RESOURCE MANAGEMENT PRACTICE: General Administration

Work Activity and Standard and Guideline

T01 LINE MANAGEMENT

T02 PROGRAM SUPPORT

5. Monitoring Plan

INTRODUCTION

This monitoring plan determines if (1) management prescriptions are applied as directed in the plan, (2) standards and guidelines for work activities are followed, (3) the objectives of the forest plan are accomplished as scheduled, and (4) the effects and costs of implementing the forest plan are as predicted.

An annual monitoring action plan is prepared to guide specific applications, intensity of sampling, and identify costs of monitoring and evaluation. An annual evaluation report documents the items reviewed, analyzed, and evaluated by the forest interdisciplinary team and its recommendations to the forest supervisor. These recommendations can include (1) no action, (2) recommend appropriate action for correction of the management practice involved, (3) modify the management prescription through amendment of the forest plan, (4) revise the schedule of projected practices, outputs, or effects, and (5) initiate revision of the plan. An annual evaluation report of monitoring activities and decisions will be prepared for the Regional Forester.

Monitoring Objective: Provide for a quantitative evaluation of the performance of the forest plan by comparing the actual quantities produced of the following services and outputs with those same quantities projected in the forest plan on an annual and cumulative basis for the forest and land area.

Timber 1

1. Item: Precommercial Thinning
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Achieve improved stand growing stock levels, biotic diversity, pest management, and economic efficiency of management practices.
5. Method of Monitoring: Timber Management Information System and forest interdisciplinary team review and evaluation of 5 percent of the stands: (1) proposed for treatment, (2) in treatment, and (3) treated within the past 3 to 6 years.
6. Frequency: Annually.
7. Precision and Reliability: +- 25 percent / +- 25 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Timber 2

1. Item: Commercial Thinning (Intermediate Harvest)
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Achieve improved stand growing stock levels, biotic diversity, pest management, forage production, and economic efficiency.
5. Method of Monitoring: Timber Management Information System and forest interdisciplinary team review and evaluation of 5 percent of the stands: (1) proposed for treatment, (2) in treatment, and (3) treated within the past 3 to 6 years.
6. Frequency: Annually.
7. Precision and Reliability: +- 25 percent / +- 25 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Timber 3

1. Item: Shelterwood Seed Cutting (Regeneration cutting)
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Achieve improved age class distribution, stand growing stock levels, biotic diversity and pest management.
5. Method of Monitoring: Timber Management Information System and forest interdisciplinary team review and evaluation of 5 percent of the stands: (1) proposed for treatment, (2) in treatment, and (3) treated within the past 3 to 6 years.
6. Frequency: Annually.
7. Precision and Reliability: +- 25 percent / +- 25 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Timber 4

1. Item: Shelterwood Removal Cutting
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Achieve improved age class distribution, stand growing stock levels, biotic diversity and pest management.
5. Method of Monitoring: Timber Management Information System and forest interdisciplinary team review and evaluation of 5 percent of the stands: (1) proposed for treatment, (2) in treatment, and (3) treated within the past 3 to 6 years.
6. Frequency: Annually.
7. Precision and Reliability: +- 25 percent / +- 25 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Timber 5

1. Item: Adequate restocking of Regeneration Cuttings
2. Unit of Measure: Acres
3. Purpose: Ensure adequate restocking of regenerated stands through natural regeneration.
4. Expected Future Condition: Adequately stocked seedling or sapling stand following removal cutting.
5. Method of Monitoring: Timber Management Information System and forest interdisciplinary team review and evaluation of 5 percent of the stands: (1) proposed for treatment, (2) in treatment, and (3) treated within the past 3 to 6 years.
6. Frequency: Annually.
7. Precision and Reliability: +- 25 percent / +- 25 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the number of inadequately stocked acres exceeds 30 percent of the stand area it is evaluated by the forest interdisciplinary team.

Timber 6

1. Item: Adequate Restocking of Planted Areas.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Adequately stocked seedling stands.
5. Method of Monitoring: Timber Management Information System and forest interdisciplinary team review and evaluation of 5 percent of the stands: (1) proposed for treatment, (2) in treatment, and (3) treated within the past 3 to 6 years.
6. Frequency: Annually.
7. Precision and Reliability: +- 25 percent / +- 25 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the number of treated acres that are inadequately stocked five years following planting exceeds 30 percent of the stand area it is evaluated by the forest interdisciplinary team.

Timber 7

1. Item: Review maximum size limits for harvest areas to determine whether prescribed size limits should be continued.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Wildlife habitat is improved through timber harvest by manipulation of stand sizes, methods of cut, and juxtaposition of stands, both spatially and temporally.
5. Method of Monitoring: A sampling of openings will be checked to see if reason exists to change the size of stands prescribed. ID team review of 10 percent of the openings created per year.
6. Frequency: Annually
7. Precision and Reliability: +- 25 percent / +- 25 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the stand size limits vary by plus or minus 25 percent at the five year interval is is evaluated by the forest interdisciplinary team.

Timber 8

1. Item: Net Sawtimber Sold and Harvested.
2. Unit of Measure: MBF
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Provide for dependent industry.
5. Method of Monitoring: Timber Management Information System and Sales Tracking and Reporting System.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 25 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.
10. Annual Cost: $150.

Timber 9

1. Item: Pinyon-Juniper Fuelwood Sold and Harvested.
2. Unit of Measure: MBF
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Provide fuelwood on sustained yield basis and ensure economic efficiency of management practices.
5. Method of Monitoring: Timber Management Information System, Automated Timber Sale Accounting, Sales Tracking and Reporting System.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 25 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Timber 10

1. Item: Evaluation of Unsuitable Timberlands
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Review of unsuitable timber lands, and lands not appropriate for timber harvest, to improve definitions of unsuitable timber lands for use in forest planning.
5. Method of Monitoring: Resource Management Information Systems and ID team annual field review of 20 percent of the stands examined.
6. Frequency: Annually.
7. Precision and Reliability: +- 25 percent / +- 25 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: Review and evaluate all lands classified as not suitable in the forest plan; based on economic, technologic, and biologic criteria reclassify all not suitable as either not suitable or as tentatively suitable for the next round of forest planning. This evaluation is done on an annual basis.

Protection 1

1. Item: Determine that destructive insects and disease organisms do not increase to unacceptable levels following management activities.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and Federal regulation.
4. Expected Future Condition: Through various silvicultural activities, slash treatment and various control methods, insect and disease problems are not expected to have serious adverse effects in timber stands. Monitoring of insect and disease levels will provide information necessary to determine future impacts.
5. Method of Monitoring: Periodic aerial surveys, ID team review of 5 percent of the stands: (1) proposed for treatment, (2) in treatment, and (3) treated within the past 3 to 6 years.
6. Frequency: Annually
7. Precision and Reliability: +- 40 percent / +- 30 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: Data will be evaluated to determine if the buildup results from a management practice. If a buildup occurs, an evaluation of significance is made by the ID team.

Range 1

1. Item: Wild Horse and Burro Use.
2. Unit of Measure: Number of animals
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Wild burro use of the Double A Burro Management Territority is maintained at or below capacity.
5. Method of Monitoring: Range Management Information System and ID team review of burro census.
6. Frequency: Annually.
7. Precision and Reliability: +- 25 percent / +- 25 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Range 2

1. Item: Permitted Grazing Use and Grazing Capacity.
2. Unit of Measure: AUM
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Permitted grazing use and grazing capacity are brought into equality on allotment basis by the tenth year.
5. Method of Monitoring: Range management Information System and ID team review and evaluation of range allotment analysis data.
6. Frequency: Annually following range allotment analysis.
7. Precision and Reliability: +- 10 percent / +- 10 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: Provide for equality of permitted use and grazing capacity by allotment in the next planning cycle.

Range 3

1. Item: Range Structural Improvements.
2. Unit of Measure: Number of Structures
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Increased grazing capacity through better utilization of range resources.
5. Method of Monitoring: Range Management Information System and forest interdisciplinary team review and evaluation of 5 percent of the structures: (1) proposed for treatment, (2) in treatment, and (3) treated within the past 3 to 6 years.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 10 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Range 4

1. Item: Range Non-structural Retreatments.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintenance of existing grazing capacity through maintaince of range forage ressources.
5. Method of Monitoring: Range Management Information System and forest interdisciplinary team review and evaluation of 5 percent of the areas: (1) proposed for treatment, (2) in treatment, and (3) treated within the past 3 to 6 years.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 10 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Recreation 1

1. Item: Public Sector Developed Recreation Use.
2. Unit of Measure: RVD
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Demand for public sector recreation facilities is partially satisfied.
5. Method of Monitoring: Recreation Information Management System.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 10 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Recreation 2

1. Item: Private Sector Developed Recreation Use.
2. Unit of Measure: RVD
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Demand for private sector recreation facilities is satisfied.
5. Method of Monitoring: Recreation Information Management System.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 10 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Recreation 3

1. Item: Operation and Maintenance of Public Sector Developed Recreation Sites.
2. Unit of Measure: PAOT-DAY
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Well maintained facilities and optimal use of site capacity.
5. Method of Monitoring: Recreation Information Management System.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 10 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the desired management service level is not achieved plus or minus 20 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Recreation 4

1. Item: Private Sector Developed Recreation Site Construction.
2. Unit of Measure: PAOT
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Recreation site capacity expanded in accordance with plan projections.
5. Method of Monitoring: Recreation Information Management System and ID Team review of one project.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 10 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Recreation 5

1. Item: Dispersed Recreation Site Investments.
2. Unit of Measure: PAOT
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Dispersed recreation sites constructed in accordance with plan projections.
5. Method of Monitoring: Recreation Information Recreation System and ID Team review of one project.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 10 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Recreation 6

1. Item: Wildlife and Fish Recreation Use.
2. Unit of Measure: WFUD
3. Purpose: Forest issue, concern, or development opportunity; and federal regulation.
4. Method of Monitoring: Recreation Information Recreation System and information system of the Arizona Game and Fish Department.
5. Frequency: Annually.
6. Precision and Reliability: +- 10 percent / +- 10 percent.
7. Time for Reporting: fifth and tenth years.
8. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Cultural Resources 1

1. Item: Protection of Cultural Resource Properties.
2. Unit of Measure: Properties
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Protection of cultural resource proerties during ground disturbing activities; elimination of cultural resource site vandalism.
5. Method of Monitoring: Cultural resource clearance reports and ID Team review of 10 percent of identified sites at completion of project.
6. Frequency: Annually.
7. Precision and Reliability: No variance allowed.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: Site marking, monitoring and protection measures will be evaluated by the forest interdisciplinary team upon detection of any inadvertent site damage or site vandalism.

Cultural Resources 2

1. Item: Evaluation of Cultural Resource Properties.
2. Unit of Measure: Properties
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Eventual disposition of cultural resource sites.
5. Method of Monitoring: Number of cultural resource site evaluations; target accomplishment of three evaluations per year.
6. Frequency: Annually.
7. Precision and Reliability: Not applicable.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of site evaluations varies by plus or minus 25 percent at the five year interval, site selection and target accomplishments are evaluated by the forest interdisciplinary team.

Cultural Resources 3

1. Item: Cultural Resource Inventory of Non-Project Related Areas.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Eventual identification of all cultural resource properties.
5. Method of Monitoring: Acres of non-project related cultural resource survey; target accomplishment of 4000 acres per year.
6. Frequency: Annually.
7. Precision and Reliability: Not applicable.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval, area selection and target accomplishments are evaluated by the forest interdisciplinary team.

Wilderness 1

1. Item: Wilderness Use.
2. Unit of Measure: RVD
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Use and management of classified wilderness areas within capacity constraints and within limits of acceptable change parameters established for each area in each Wilderness Opportunity Spectrum (WOS) class.
5. Method of Monitoring: Recreation Information Management and Limits of Acceptable Change systems, and ID Team review of one classified wilderness area annually.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 10 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval, or if a decline in the WOS classification is detected, wilderness management systems will be evaluated by the forest interdisciplinary team.

Visual Quality 1

1. Item: Effects of Resource Management Practices on Visual Quality.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintenance or enhancement of visual diversity in visually sensitive road corridors.
5. Method of Monitoring: ID team review of stands or areas: (1) proposed for treatment, (2) in treatment, and (3) treated within past 3 to 8 years within one road corridor identified as visually sensitive.
6. Frequency: Annually.
7. Precision and Reliability: Not applicable.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If resource management practices are not expected to achieve visual quality objectives related to visual diversity, age class distribution and slash disposal, visual constraints applied to management practices is evaluated by the forest interdisciplinary team.

Soil 1

1. Item: Unsatisfactory Watershed Condition.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Improved watershed conditions through reduction in the amount of watershed in unsatisfactory condition.
5. Method of Monitoring: Soil and Watershed Management Information System and ID Team review of 5 percent of the soil resource improvement projects: (1) proposed for treatment, (2) in treatment, and (3) treated within the past 3 to 8 years.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 10 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Land Mgt.
Planning 1

1. Item: Resource Information Management Systems and Resource Inventory and Data Collection Systems for Timber; Range, Soil and Water; Recreation, Wilderness, and Cultural Resources; Transporation and Facilities; Wildlife and Fish Habitat; Forest Protection (fire, fuels, and pests); Geometronics; Minerals; ,andownership; and Cost Accounting.
2. Unit of Measure: Not applicable
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Resource inventory information, cost information, maps, aerial photographs and other imagery, and other resource management information is of the kind, accuracy, and precision to be easily accessible, useable, and retrievable for long-range strategic planning and short-range operational plannning.
5. Method of Monitoring: Annual review and use of these information systyems by the forest interdisciplinary team.
6. Frequency: Annually.
7. Precision and Reliability: Not applicable
8. Time for Reporting: fifth and tenth years.
9. Evaluation: Forest ID team annually monitors and reviews the products of all resource inventory and information systems with evaluations of all systems in the fourth and eight years.

Wildlife 1

1. Item: Wildlife and Fish Non-structural Habitat Improvements.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Increased habitat capacity through more and better forage and cover.
5. Method of Monitoring: Wildlife and Fish Management Information System and forest interdisciplinary team review and evaluation of 5 percent of the areas: (1) proposed for treatment, (2) in treatment, and (3) treated within the past 3 to 6 years.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 10 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Wildlife 2

1. Item: Wildlife and Fish Structural Habitat Improvements.
2. Unit of Measure: Number of Structures
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Increased habitat capacity through the development of structural improvements.
5. Method of Monitoring: Wildlife and Fish Management Information System and ID Team review of 5 percent of the structural habitat improvement projects: (1) proposed for treatment, (2) in treatment, and (3) treated within past 3 to 6 years.
6. Frequency: Annually.
7. Precision and Reliability: +- 10 percent / +- 10 percent.
8. Time for Reporting: fifth and tenth years.
9. Evaluation: If the quantity of actual output or treatment varies by plus or minus 25 percent at the five year interval it is evaluated by the forest interdisciplinary team.

Wildlife 3

1. Item: Goshawk and Spotted Owl - amount of old growth habitat
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Applied management achieves desired stand characteristics for old-growth and indicator species so they do not significantly decline.
5. Method of Monitoring: Old-growth inventory, compartment exams and habitat capability modeling.
6. Frequency: Annual
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Any 10,000 acre block without 3 percent of the capable forested land meeting old-growth conditions or being managed to display old growth characteristics.

Wildlife 4

1. Item: Goshawk and Spotted Owl - nest location, occupancy, and productivity
2. Unit of Measure: Numbers
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain population and habitat effectivenss.
5. Method of Monitoring: Follow-up on known nests, project reconnaissance.
6. Frequency: Annual (spring and early summer)
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: 15 percent drop in nesting numbers over 10-year period.

Wildlife 5

1. Item: Pygmy Nuthatch - amount of old growth habitat.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Applied management achieves desired stand characteristics for old-growth and indicator species so they do not significantly decrease.
5. Method of Monitoring: Old-growth inventory, compartment exams and habitat compatiblity modeling
6. Frequency: Annual
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Any 10,000 acre block without 3 percent of the capable forested land meeting old-growth conditions or being managed to display old growth characteristics.

Wildlife 6

1. Item: Pygmy Nuthatch - snag densities and sizes (existing and future)
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectiveness
5. Method of Monitoring: Snag inventories and project reconnaissance
6. Frequency: Annual
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Presribed snag densities not met on at least 50 percent of the area evaluated over 5-year period

Wildlife 7

1. Item: Turkey - roost density
2. Unit of Measure: Numbers
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectivenss
5. Method of Monitoring: Project reconnaissance
6. Frequency: Annually on 90 percent of effected projects.
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Prescribed roost densities not met on at least 50 percent of area evaluated over 5-year period.

Wildlife 8

1. Item: Turkey - population trend
2. Unit of Measure: Numbers
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Meet population goal.
5. Method of Monitoring: Arizona Game and Fish Department surveys.
6. Frequency: Annual
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Comprehensive Plan goal not met, 25 percent decrease in population over 5-year period. Evaluated over 5-year period.

Wildlife 9

1. Item: Red Squirrel - amount of suitable habitat
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectiveness
5. Method of Monitoring: Project reconnaissance and habitat capability modeling.
6. Frequency: Annually on 90 percent of effected projects
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Prescribed habitat capability levels are not met on at least 50 percent of area.

Wildlife 10

1. Item: Elk and Mule Deer - amount of hiding and thermal cover
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectiveness
5. Method of Monitoring: Project reconnaissance and habitat capability modeling.
6. Frequency: Annually on 90 percent of effected projects
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Prescribed levels of cover are not met on at least 50 percent of area evaluated over 5-year period.

Wildlife 11

1. Item: Elk and deer - reproductive and key area parameters
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectiveness
5. Method of Monitoring: Project reconnaissance.
6. Frequency: Annually on 90 percent of effected projects
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Prescribed standards are not met, new areas or habitat components are determined to be important.

Wildlife 12

1. Item: Elk and deer - browse and forage use and age class structure of browse.
2. Unit of Measure: Acres.
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectiveness.
5. Method of Monitoring: Field surveys, production-utilization surveys, browse transects.
6. Frequency: Annually in spring and 9-13 years on each allotment.
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Exceeds established standards of use.

Wildlife 13

1. Item: Elk and Mule Deer - population trends and distribution.
2. Unit of Measure: Numbers
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Meet population goal.
5. Method of Monitoring: Arizona Game and Fish Department surveys.
6. Frequency: Annual
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Comprehensive Plan goals not met by -5 percent or +10 percent for elk, by -5 percent for deer.

Wildlife 14

1. Item: Tassel-eared Squirrel - amount of suitable habitat
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectiveness
5. Method of Monitoring: Project reconnaissance and habitat capability modeling.
6. Frequency: Annually on 90 percent of affected projects.
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Prescribed habitat capability levels are not met on at least 50% of area.

Wildlife 15

1. Item: Tassel-eared Squirrel - population trend
2. Unit of Measure: Numbers
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Meet population goal
5. Method of Monitoring: Arizona Game and Fish Department surveys.
6. Frequency: Annual
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Comprehensive plan goals not met by -5 percent

Wildlife 16

1. Item: Hairy Woodpecker and Yellow-Bellied sapsucker - snag densities, sizes, and species (existing and future).
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectiveness
5. Method of Monitoring: Snag inventories, project reconnaissance and habitat capability modeling.
6. Frequency: Annual
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: When prescribed snag densities and sizes are not met on at least 50 percent of area evaluated over 5-year period.

Wildlife 17

1. Item: Plain Titmouse - amount of old growth habitat.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectiveness
5. Method of Monitoring: Old-growth surveys, stand exams and habitat capability modeling.
6. Frequency: Annual
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Any 10,000 acre block without 3 percent of the capable forested land meeting old-growth conditions or managed to display old growth characteristcs

Wildlife 18

1. Item: Plain Titmouse - snag densities and sizes
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectiveness
5. Method of Monitoring: Snag inventories and project reconnaissance
6. Frequency: Annual
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Prescribed snag densities not met on at least 50 percent of area evaluated over 5-year period.

Wildlife 19

1. Item: Antelope - forage use.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectiveness
5. Method of Monitoring: Field surveys, production-utilization surveys, habitat capability modeling.
6. Frequency: 9-13 years on each allotment and annually.
7. Precision and Reliability: +-15/+-15
8. Time of Reporting: fifth and tenth years
9. Evaluation: 25 percent decrease in available forage from most recent study.

Wildlife 20

1. Item: Antelope - population trends
2. Unit of Measure: Numbers
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Meet population goal
5. Method of Monitoring: Arizona Game and Fish Department surveys.
6. Frequency: Annual
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: Comprehensive plan goals not met by -5 percent

Wildlife 21

1. Item: Cinnamon Teal - amount of suitable nesting habitat.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectiveness
5. Method of Monitoring: Field surveys (height density method).
6. Frequency: Every 5 years on selected wetlands.
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: 25 percent decrease in habitat from previous 5 years.

Wildlife 22

1. Item: Cinnamon Teal - nesting success.
2. Unit of Measure: Numbers
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Meet population goal
5. Method of Monitoring: Systematic field sampling.
6. Frequency: Every 5 years on selected wetlands.
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: 25 percent decrease from previous 5 years.

Wildlife 23

1. Item: Riparian Areas - habitat condition.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Forest related issues.
5. Method of Monitoring: Systematic field sampling.
6. Frequency: 5 percent of riparian acres annually.
7. Precision and Reliability: +-15/+-15
8. Time of Reporting: fifth and tenth years
9. Evaluation: 10 percent of acres decrease in condition ratings.

Wildlife 24

1. Item: Riparian Indicator Species - (Lincoln's Sparrow and Yellow-breasted chat) - population trends.
2. Unit of Measure: Numbers
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Forest Issue related.
5. Method of Monitoring: Systematic field sampling and habitat capability modeling.
6. Frequency: Every 5 years on selected streams.
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: 10 percent decrease on estimated numbers from previous years.

Wildlife 25

1. Item: Macro-Invertebrates - Species diversity and biomass
2. Unit of Measure: Biotic Condition Index (BCI)
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Maintain habitat effectiveness
5. Method of Monitoring: Systematic field sampling (modified surber sampling).
6. Frequency: Every 5 years on selected streams.
7. Precision and Reliability: +-15/+-15
8. Time of Reporting: fifth and tenth years
9. Evaluation: Dominance and Taxa Diversity Index (DAT) falls below 11 (Good)BCI index falls below 80 (Good)

Wildlife 26

1. Item: Threatened and Endangered Species - amount of suitable habitat.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Meet Federal regulations.
5. Method of Monitoring: Field surveys.
6. Frequency: Annual
7. Precision and Reliability: +-15/+-15
8. Time of Reporting: fifth and tenth years
9. Evaluation: 5 percent decline in local populations

Wildlife 27

1. Item: Threatened and Endangered Species - population trends.
2. Unit of Measure: Numbers
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Meet Federal regulations.
5. Method of Monitoring: Field surveys, U.S. Fish and Wildlife Service surveys.
6. Frequency: Annual
7. Precision and Reliability: +-15/+-15
8. Time of Reporting: fifth and tenth years
9. Evaluation: 5 percent decline in local populations

Wildlife 28

1. Item: Sensitive Species - amount of suitable habitat and population trends.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Manage at appropriate levels to prevent listing species as threatened or endangered.
5. Method of Monitoring: Field surveys.
6. Frequency: Annual
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: 10 percent decrease in local populations.

Wildlife 29

1. Item: Diversity - successional stages of major vegetation types.
2. Unit of Measure: Acres
3. Purpose: Forest issue, concern, or development opportunity; measure of prescription and effects; and federal regulation.
4. Expected Future Condition: Meet Federal regulations
5. Method of Monitoring: Field surveys, timber inventory.
6. Frequency: 5 years-Forest wide
7. Precision and Reliability: +-25/+-25
8. Time of Reporting: fifth and tenth years
9. Evaluation: 15 percent change from predicted levels.

Glossary

ACRE-EQUIVALENT - A unit of habitat output related to fish or wildlife habitat improvement projects. Acre equivalents are based on the acres of habitat that are influenced by an acre of habitat actually modified by the project. For example, an acre of winter range burned is credited with influencing five acres of summer range.

ACRE-FOOT - A water volume measurement equal to the amount of water that would cover one acre to a depth of one foot (43,560 cubic feet or 325,851 gallons).

ACTIVITY FUELS - Logging debris generated from any activity on the Forest such as fuelwood gathering, precommercial thinning, timber harvesting, and road construction, which increases fire potential.

ADMINISTRATIVE SITE - A site which primarily exists for general administrative purposes. It normally will include office, warehouse, outside storage, and parking areas. It may include housing and pasture for livestock. A work center may be part of an administrative headquarters site.

AFFECTED ENVIRONMENT - The biological, physical, social, and economic environment subject to changes that will or may take place, as a result of proposed human activity.

AGE CLASS - Interval of years, commonly twenty, into which trees are grouped for management. Example: 1 to 20 years, 21 to 40 years.

ALIENATED MINERAL RIGHTS - Ownership of the mineral rights is by someone other than the surface rights owner.

ALLOCATION - The assignment of management prescriptions to particular land areas to achieve the goals and objectives of an alternative.

ALLOWABLE SALE QUANTITY (ASQ) - The quantity of timber that may be sold from the area of land covered by the Forest Plan for a time period specified by the plan. The quantity is usually expressed on an annual basis as the average annual allowable sale quantity.

ALTERNATIVE - A proposition or situation offering a choice between two or more management methods, only one of which may be chosen.

AMENITY - The pleasurable, educational, or aesthetic features of the land or resources.

ANALYSIS AREA - One or more sites combined for the purpose of analysis in formulating alternatives and estimating various impacts and effects.

ANALYSIS OF MANAGEMENT SITUATION (AMS) - A determination of the ability of the planning area to supply goods and services in response to society's demand for those goods and services.

ANIMAL MONTH (AM) - One animal grazing for one month.

ANIMAL UNIT MONTH (AUM) - The quantity of forage required by one mature cow (1,000 pounds) or the equivalent for one month.

AQUATIC - Pertaining to standing and running water in streams, rivers, lakes, and reservoirs.

ARTERIAL ROADS - Roads that provide service to large land areas and usually connect with public highways or other Forest arterial roads to form an integrated network of primary travel for maximum mobility and travel efficiency, rather than specific resource-management service. They are usually developed and operated for long-term land and resource management purposes and constant service.

ARTIFACT - An object that has been modified, used, or constructed by man. Stone tools, pottery, buildings, roads, and mines are examples of artifacts.

ASSESSMENT - The Renewable Resource Assessment required by the Resources Planning Act (RPA).

AUM - See "Animal Unit Month."

AVAILABLE FOREST LAND - Land which has not been legislatively withdrawn by Congress or administratively withdrawn by the Secretary of Agriculture or Forest Service Chief from timber production.

B/C VALUES - See "Benefit/Cost Ratio."

BACKGROUND (VISUAL DISTANCE ZONE) - The distant part of a landscape; surroundings, especially those behind something, and providing harmony and contrast; area located from three to five miles to infinity from the viewer.

BASAL AREA - Measurement of how much of a site is occupied by trees. It is determined by measuring the square feet of the cross-section of all the trees per acre at breast height (4.5 feet).

BASE TIMBER HARVEST SCHEDULE - The timber harvest schedule in which the planned sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade of the planning period, and this planned sale and harvest for any decade is not greater than long-term sustained yield capacity. (36 CFR 219.3(c) NFMA Regulations)

BENCHMARK - A category of Forest Planning alternatives used to establish standards by which to compare alternatives considered in detail. Benchmark alternatives include minimum level, minimum acceptable level, maximum resource levels, and maximum present net value levels.

BENEFIT/COST RATIO - The total discounted benefits of any activity divided by the total discounted costs.

BIG GAME - The larger species of wild animals that are hunted, such as elk, deer, bighorn sheep.

BIOLOGICAL POTENTIAL - The maximum production of a selected organism that can be attained under optimum management.

BLM - Bureau of Land Management.

BOARD FOOT - Measure of an amount of timber equivalent to a piece 12" x 12" x 1". The boards bought at a lumber store are somewhat smaller because they have been planed smooth.

BOARD FOOT/CUBIC FOOT CONVERSION RATIO - Both board foot and cubic foot volumes can be determined for timber stands. The number of board feet per cubic foot of volume varies with tree species, diameter, height, and form factors.

BROWSE - Twigs, leaves, and young shoots of trees and shrubs on which animals feed; in particular, those shrubs which are utilized by big game animals or domestic livestock for food.

BUFFER-FILTER STRIP - A designated land or water area, along the perimeter of some land use, where activities are regulated so as to prevent unwanted effects into areas beyond the buffer.

CABLE LOGGING - A method for transporting logs from stumps to collecting points which utilizes a cable system as the main device for moving them.

CANOPY - The more or less continuous cover of branches and foliage formed collectively by the crown of adjacent trees and other woody growth.

CAPABILTIY - The potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils, and geology, as well as the application of management practices, such as silviculture or protection from fires, insects, and disease.

CAPABILITY AREA - An area of land delineated for the purpose of estimating responses to various management practices, resource values, output coefficients, and multi-resource or joint production functions. Capability areas may be synonymous with ecological land units, ecosystems, or land response units. Capability areas are the single geographic delineations used to describe characteristics of the land and resources in integrated forest planning.

CAPABLE FOREST LAND - Land with a biological growth potential which is equal to or exceeds the minimum standard for timber production (an average annual growth rate of at least twenty cu. ft. per acre).

CAPABLE RANGE - Land that can produce forage for animal consumption without impairing other forage values; generally considered as land that is not being cultivated.

CARRYING CAPACITY - The optimum density of a species which a given environment or range is capable of sustaining, without deteriorating that environment or range.

CAVITY - The hollow excavated in trees by birds or other natural phenomena; used for roosting and reproduction by many birds and mammals.

CEQ - Council on Environmental Quality.

CFR - Code of Federal Regulations.

CHEMICAL WATER QUALITY - Measurements of chemical parameters (alkalinity, dissolved oxygen, dissolved iron, etc.) used to describe the quality of water.

CLEARCUTTING - Harvesting of all trees in one cut on an area for the purpose of creating a new, even-aged stand. The area harvested may be a patch, stand, or strip large enough to be mapped or recorded as a separate age class in planning. Regeneration is obtained through natural seeding, or through planting or direct seeding.

CULMINATION OF MEAN ANNUAL INCREMENT (CMAI) - Point in the age of a forest stand in which the mean annual growth increment no longer increases.

COLLECTOR ROADS - Roads that serve smaller land areas and are usually connected to Forest arterial roads or public highways. They collect traffic from local roads and terminal facilities. Collector roads are operated for constant use.

COMMERCIAL FOREST LAND (CFL) - Forest land which is producing or capable of producing crops of industrial wood and which has not been reserved or deferred from entry. This includes areas suitable for management to grow crops of industrial wood generally of a site quality capable of producing in excess of twenty cubic feet per acre of annual growth. This includes both accessible and inaccessible areas. Permanently inoperable or nonstockable areas are excluded because they are not suitable for silvicultural management. Conversely, nonstocked areas which could be stocked and otherwise meet this definition are included.

COMMERCIAL THINNING - Cutting for the sale of products (poles, posts, pulpwood, etc.) in immature stands to improve the quality and growth of the remaining stand.

COMMODITY OUTPUTS - A resource output with commercial value; all resource products which are articles of commerce.

COMMON VARIETY MINERALS - See minerals, common variety.

COMMUNITY LIFESTYLES - The ways in which residents conduct their everyday routines and how the "way they live" is associated with National Forest.

CONCERN - See management concern.

CONCESSION PERMIT - A permit which authorizes private individuals or corporations to operate a facility on National Forest Land as a commercial profit-making venture.

CONDEMNATION - In real property law, the process by which property of a private owner is taken for public use, without his consent, but requiring payment of just compensation.

CONIFER - A group of cone-bearing trees, mostly evergreen, such as the pine, spruce, fir, pinyon, juniper, etc.

CONSTRAINED MAXIMUM LEVEL BENCHMARK - The highest level of a particular output that could be produced over time, subject to the production of minimum acceptable levels for all other outputs.

CONSTRAINT - A quantification of the minimum or maximum amount of an output or cost that could be produced or incurred in a given time period.

CONSUMPTIVE USE - Those uses of a resource that reduce the supply. For example, some consumptive uses of water are: irrigation, domestic, and industrial use.

CORD - A unit of gross volume measurement for stacked round or split wood. A standard cord is 4' x 4' x 8' or 128 cubic feet. A standard cord may contain sixty to one hundred cubic feet of solid wood depending on the size of the pieces and the compactness of the stack.

CORRIDOR - A linear strip of land which has ecological, technical, economic, social, or similar advantages over other areas for the present or future location of transportation or utility routes.

COST COEFFICIENTS - Values which relate an acre of land to a particular dollar cost in a specific period of time.

COST EFFICIENCY - A comparative measure of economic efficiency determined by maximizing the present net value of an alternative, subject to meeting the objectives of the alternative.

COUNCIL ON ENVIRONMENTAL QUALITY (CEQ) - An advisory council to the President established by the National Environmental Policy Act of 1969. It reviews federal programs for their effect on the environment, conducts environmental studies and advises the President on environmental matters.

COVER/FORAGE RATIO - The ratio of cover (usually conifer types) to foraging areas (natural openings, clearcuts, etc.).

CRITICAL HABITAT - That portion of a wild animal's habitat that is critical for the continued survival of the species. Under Endangered Species Act, specific area designated for that species that is essential to survival of the species and which may require special management or protection.

CULTURAL RESOURCE - The physical remains of past human cultural systems and places or sites of importance in human history or prehistory.

DBH - Diameter at breast height. Diameter of a tree approximately 4 1/2 feet above the ground.

DEMAND TRENDS - The expected future need or desire for outputs, services, and uses.

DEPARTURE - A timber harvest schedule which deviates from the principle of nondeclining flow by exhibiting a planned decrease in the timber sale and harvest schedule at any time in the future. A departure can be characterized as a temporary increase, usually in the beginning decade(s) of the planning period, over the base sale schedule that would otherwise be established, without impairing the future attainment of the Forest's long-term sustained yield capacity.

DEVELOPED RECREATION - Recreation that requires facilities that result in concentrated use of an area. Examples are campgrounds and ski areas. Facilities might include: Roads, parking lots, picnic tables, toilets, drinking water, ski lifts, and buildings.

DIRECTIONAL DRILLING - The art of drilling a borehole wherein the course of the hole is planned before drilling. Such holes are usually drilled with rotary equipment at an angle to the vertical, and are useful in avoiding obstacles or reaching side areas.

DISPERSED RECREATION - Outdoor recreation which occurs on areas which are not developed for intensive recreation use. Dispersed areas include general undeveloped areas, roads, trails, and water areas not treated as developed sites.

DIVERSITY - The relative degree of abundance of wildlife species, plant species, communities, habitats, or habitat features per unit of area.

EA - Environmental Assessment.

EARLY FOREST SUCCESSION - The biotic community that develops immediately following the removal or destruction of the vegetation in an area.

ECONOMIC EFFICIENCY ANALYSIS - A comparison of the values of resource inputs (cost) required for a possible course of action with the values of resource outputs (benefits) resulting from such action. In this analysis, incremental market and non-market benefits are compared with investment and physical resource inputs.

ECONOMICS - The study of how resources, goods, and services are allocated among competing uses.

ECOSYSTEM - The system formed by the interaction of a group of organisms and their environment.

EDGE - The place where different plant communities , successional stages or vegetative conditions border upn each other.

EFFECTS - Results expected to be achieved relating to the physical, biological, and social (cultural and economic) factors resulting from a land use or activity. Examples of effects are tons of sediment, pounds of forage, person-years or employment, income, etc. There are direct effects, indirect effects, and cumulative effects.

ENDANGERED SPECIES - Any species which is in danger of extinction throughout all or a significant portion of its range.

ENDEMIC - Native or confined to a certain region; having a comparitively restricted distribution.

ENVIRONMENTAL ANALYSIS - An analysis of alternative actions and their predictable short- and long-term environmental effects which include physical, biological, economic, social, and environmental design factors and their interactions.

ENVIRONMENTAL ASSESSMENT - The concise public document required by the regulations for implementing the procedural requirements of NEPA (40 CFR 1508.9).

ENVIRONMENTAL IMPACT STATEMENT (EIS) - The version of the statement of Environmental Effects required for major Federal actions under Section 102 of the National Environmental Policy Act (NEPA), and released to the public and other agencies for comment and review. It is a formal document which must follow the requirements of NEPA, the Council on environmental Quality (CEQ) guidelines, and directives of the agency responsible for the project proposal.

EROSION - The wearing away of the land's surface by running water, wind, ice, or other geological agents. It includes detachment and movement of soil or rock fragments by water, wind, ice, or gravity.

EVAPOTRANSPIRATION - The conversion of water, whether open, as soil moisture, or within plants, into water vapor that is released into the atmosphere.

EVEN-AGED SILVICULTURE - The combination of actions that results in the creation of stands in which trees of essentially the same age grow together. Managed even-aged forests are characterized by a distribution of stands of varying ages (and therefore tree sizes) throughout the forest area. Regeneration in a particular stand is obtained during a short period at or near the time that the stand has reached the desired age or size and is harvested. Clearcutting, shelterwood cutting, seed tree cutting, and their many variations are the cutting methods used to harvest the existing stand and regenerate a new one. In even-aged stands, thinnings, weedings, cleanings, and other cultural treatments between regeneration cuts are often beneficial. Cutting is normally regulated by scheduling the area of harvest cutting to provide for a forest that contains stands having a planned distribution of age classes. (36 CFR 211.3(k) NFMA Regulations.)

EVEN-FLOW - Maintaining a relatively constant output of timber from decade to decade.

EXPERIENCE LEVELS - The range of opportunities for satisfying basic recreation needs of people. A scale of five experience levels ranging from "primitive" to "modern" is defined for the National Forest System.

EXTENSIVE GRAZING - Season-long use of rangelands, with distribution of livestock occurring through riding, salting, etc., instead of pasture rotation.

EYRIE - The nesting site of a bird of prey, as an eagle or a hawk.

FACILITY CONDITION CLASS - The rating system used in the Recreation Information Management system to classify the condition and maintenance needs of recreation sites and areas.

FAUNA - The animals of a given region or period.

FEE SITE - A Forest Service recreation area in which users must pay a fee. Fee sites must meet certain standards and provide certain facilities as specified in the Forest Service Manual.

FINAL CUT - Removal of the last seed bearers or shelter trees after regeneration is considered to be established under a shelterwood system.

FIRE HAZARD - The fuel in which a fire will ignite and burn.

FIRE MANAGEMENT AREA - One or more parcels of land with clearly defined boundaries and with established fire management direction which is responsive to land and resource management goals and objectives.

FIRE MANAGEMENT/EFFECTIVENESS INDEX (FMEI) - The index value measures effectiveness of annual fire management operational programs. It is a planning, attainment, analysis, and evaluation tool for both annual and long-term programs. Measured in dollars per thousand acres protected, the objective is to minimize the index value.

FIRE RISK - The probability of a fire starting from natural or man-made causes.

FISHERIES HABITAT - Streams, lakes, and reservoirs that contain and support fish.

FLOOD PLAIN - Land adjacent to a channel which is covered with water when the stream overflows its banks.

FLOODPLAIN - Low land and relatively flat areas joining inland and coastal waters, including debris cones and flood prone areas of offshore islands. The minimum area included is that subject to a one percent (100-year recurrence) or greater charge of flooding in any given year.

FLORA - The plants of a given region or period.

FORAGE - All nonwoody plants (grass, grass-like plants and forbs) and portions of woody plants (browse) available to domestic livestock and wildlife for food. Only a portion of a plant is available for forage if the plant is to remain healthy.

FORAGE AND HERBAGE - Forage refers specifically to all browse and nonwoody plants that are available to livestock or game animals and used for grazing or harvested for feeding. Herbage may also include material not acceptable to grazing or browsing animals.

FORAGE UTILIZATION - (1) The portion of current year's forage production by weight that is consumed or destroyed by grazing animals. Syn., degree of use. Expressed in percent of current year's growth utilized by grazing animals on an average over time based on a system of range management that will maintain the key forage species while achieving other management objectives such as the maintenance of watersheds, wildlife habitat, and recreational values and the protection of regenerating plants. (2) The percent expressed in the "Prescriptions for Management Areas" is the estimated average forage utilization allowable to meet the objectives of that prescription under sustained-yield management.

FORB - Any herbaceous plant other than grass or grass-like plants.

FOREGROUND (VISUAL DISTANCE ZONE) - The part of a scene, landscape, etc., which is nearest to the viewer, and in which detail is evident, usually one-half to one-quarter mile from the viewer.

FOREST AND RANGELAND RENEWABLE RESOURCES PLANNING ACT OF 1974 - A Act of Congress requiring the preparation of a program for the management of the National Forests' renewable resources, and of land and resource management plans for units of the National Forest System. It also requires a continuing inventory of all National System lands and renewable resources.

FOREST LAND - Land at least ten percent stocked by forest trees of any size, or formerly having had such tree cover, and not currrently developed for nonforest use.

(FOREST LAND) CAPABLE - Forest land which is capable of growing industrial crops of wood at or above the minimum biological growth established by the Regional plan. The classification includes both accessible and inaccessible, stocked and non-stocked land.

(FOREST LAND) CAPABLE AND AVAILABLE - Capable forest land which has not been legislatively withdrawn or administratively withdrawn from timber production by the Secretary or the Chief of the Forest Service.

(FOREST LAND) CAPABLE BUT NOT AVAILABLE - Capable forest land which has been legislatively withdrawn or administratively withdrawn from timber production by the Secretary or Chief of the Forest Service. Capable but not available forest land is classed as not suited for timber production.

(FOREST LAND) CAPABLE-RESERVED - Capable forest land which has been legislatively withdrawn or administratively withdrawn from timber production on a permanent basis. Examples of this classification are: Wilderness Areas, Primitive Areas, Research Natural Areas, or special interest areas, or similar formal withdrawals approved by the Chief or higher authority.

(FOREST LAND) NOT CAPABLE - Forest land which is not capable of growing industrial crops of wood at least at the minimum biological growth potential of twenty cubic feet per acre annually as established in the Regional plan. Forest land not capable is classed as land not suited for timber production.

FOREST PLAN - A process, required by Law, for assessing economic, social, and environmental impacts, which describes how land and resources will provide for multiple use and sustained yield of goods and services.

FOREST SUPERVISOR - The official responsible for administering the National Forest System lands in a Forest Service Administrative unit, which may consist of one or more National Forests or all the Forests within a State. This person reports to the Regional Forester.

FOREST SYSTEM ROAD - Roads that are part of the Forest development transportation system, which includes all existing and planned roads, as development transportation facilities.

FOREST-WIDE STANDARD - A principle requiring a specific level of attainment, a rule to measure against. The Forest-wide standard applies to all areas of the Forest regardless of the other prescriptions applied.

FORPLAN - A linear programming model used for developing and analyzing Forest planning alternatives.

FSH - Forest Service Handbook.

FSM - Forest Service Manual.

FUEL BREAK - A zone in which fuel quantity has been reduced or altered to provide a position for suppression forces to make a stand against wildfire. Fuel breaks are designated or constructed before the outbreak of a fire. Fuel breaks may consist of one or a combination of the following: natural barriers, constructed fuelbreaks, man-made barriers.

FUEL MODEL - A simulated fuel complex for which all the fuel descriptions required by the mathematical fire spread model have been specified.

FUELS - Materials, including both living plants and dead, woody, vegetative materials, which are capable of burning.

FUELS MANAGEMENT - Manipulation or reduction of fuels to meet Forest protection and management objectives while preserving and enhancing environmental quality.

FUELWOOD - Wood that is round, split or sawed, and cut into short lengths for burning. Also known as firewood.

FULL SERVICE MANAGEMENT - Management of developed recreation facilities to provide optimum maintenance and enchance visitor experience.

GAME SPECIES - Any species of wildlife or fish for which seasons and bag limits have been prescribed, and which are normally harvested by hunters, trappers, and fishermen under State or Federal laws, codes, and regulations.

GAUGING STATIONS - Continuous streamflow measuring station.

GOAL - A concise statement of the state or condition that a land and resource management plan is designed to achieve. A goal is usually not quantifiable and may not have a specific date for completion. [36 CFR 219.2[1]]

GOODS AND SERVICES - The various outputs produced by forest and range land renewable resources, the tangible and intangible values of which are expressed in market and nonmarket terms.

GRAZING CAPACITY - The maximum level at which animals can graze an area without damage to the vegetation or related resources.

GRAZING PERMITTEE - An individual who has been granted written permission to graze livestock for a specific period on a range allotment.

GROUNDWATER - Subsurface water in a saturated zone or geologic stratum.

GROUP SELECTION CUTTING - Involves the removal of small groups of trees to meet a predetermined goal of age distribution and species in the remaining stand. The distance across an opening created by removal of a group of trees is usually no more than one to two mature tree heights.

GROWING STOCK LEVEL [GSL] - Expressed in either stems per acre or square feet of basal area of timber growing on any area.

GUIDELINE - an indication or outline of policy or conduct.

HABITAT - The place where animals live. It can be water for beaver, fish, and aquatic insects; rocks for pika, bats, and some species of birds; or forested areas for many mammals, birds; or forested areas for many mammals, birds, and reptiles.

HABITAT CAPABILITY - see Carrying Capacity.

HABITAT TYPE - An aggregation of all land areas potentially capable of producing similar plant communities at climax.

HARDWOOD - A conventional term for the timber of broad-leaved trees, and the trees themselves, belonging to the botanical group, Angiospermae.

HARVEST CUT - The removal of a stand of trees as a final cut in even-aged management, or the removal of mature trees in uneven-aged management. Regeneration encouragement is emphasized.

HERBICIDE - A chemical compound used to kill or control growth of undesirable plant species.

HERBIVORE - An animal that feeds on plant substances.

HIDING COVER - Plants or other objects used by wildlife for concealment. Adequate big-game cover is defined as vegetation capable of hiding ninety percent of a standing elk from a viewer at a distance of 200 feet or less.

HORIZONTAL STRUCTURE - The arrangement of single age and size classes by stands. Stands representing different age and size classes should be distributed within a forested area.

HYDROLOGIC FUNCTION - The ability of a watershed to sustain favorable conditions of streamflow. Favorable conditions of streamflow are measured in terms of water quality, quantity and timing.

IMPLEMENTING REGULATIONS - Regulations generated by an agency to implement an Act of Congress, i.e., 36 CFR 219 contains implementing regulations for RPA and NFMA.

IMPROVEMENT - Man-made developments such as roads, trails, fences, stock tanks, pipelines, power and telephone lines, survey monuments, and ditches.

IN-HOLDINGS - Lands within the proclaimed boundaries of a National Forest that are owned by some other agency, organization, or individual.

INDICATOR SPECIES - A wildlife species whose presence in a certain location or situation at a given population level indicates a particular environmental condition. Population changes are believed to indicate effects of management activities on a number of other wildlife species.

INDIGENOUS SPECIES - Species historically native to an area; not introduced by man.

INSECTICIDE - An agent used to control insect populations.

INSTREAM FLOW - That streamflow necessary to meet seasonal streamflow requirements for maintaining aquatic ecosystems, visual quality, and recreational opportunities on National Forest lands at acceptable levels.

INTEGRATED PEST MANAGEMENT - A management strategy for suppression of forest pests which integrates silvicultural mechanical, biological, and chemical suppression strategies which achieve greater efficiency and safety than the same strategies used alone.

INTENSIVE GRAZING - Grazing management that controls distribution of cattle and duration of use on the range, usually by fences, so parts of the range are rested during the growing season. See Livestock Grazing Management Level D.

INTERDISCIPLINARY TEAM (ID Team)) - A group of individuals with differing complementary skills. An interdisciplinary team is assembled because no single scientific discipline is sufficient to adequately identify and resolve issues and problems. Team member's interaction provides necessary insight to all stages of the process.

INTERMEDIATE CUTTING - Any removal of trees from a stand between the time of its formation and the regeneration cut. Most commonly applied intermediate cuttings are release, thinning, improvement, and salvage.

INTERMITTENT STREAM - A stream which flows only at certain times of the year when it receives water from springs or from some surface source such as melting snow in mountainous areas.

INTERPRETIVE SITES - A developed site at which a broad range of natural or cultural history is interpreted or described for the enjoyment of the public.

INTOLERANT SPECIES - Those plant species that do not grow well in shade.

INVERSION - A stable layer of air where the temperature of the air increases with height.

ISSUE - A subject or question of widespread public discussion or interest regarding management of National Forest System Lands.

KEY AREA - In grazing, that portion of a pasture or grazing unit, which because of its nature, serves to control the pattern of grazing use for the pasture as a whole. For wildlife, that specific portion of the habitat for a species which tends to limit the number of animals which can survive in that area, such as key winter range.

KEY HABITAT - See Key Area.

K-V FUNDS - In 1930, Congress passed the Knutson-Vandenberg Act (K-V Act) to authorize collection of funds (K-V Funds) for reforestation and timber stand improvement work on areas cut over by a timber sale.

LAND EXCHANGE - The conveyance of non-Federal land or interests to the United States in exchange for National Forest System land or interests in land.

LAND LINE - For Forest Plan purposes, National Forest property boundaries.

LATE FOREST SUCCESSION - A stage of forest succession where the majority of trees are mature or over-mature.

LEASABLE MINERALS - Minerals such as coal, oil, gas, phosphate, sodium, potassium, oil, oilshale, and geothermal steam which fall under the authority of the Mineral Leasing Act of 1920, as amended.

LINEAR PROGRAM MODEL - A mathematical method used to determine the best use of resources to achieve a desired result when limitations on available resources can be expressed in the form of equations.

LIVESTOCK GRAZING MANAGEMENT LEVELS -

Level A - Livestock grazing is entirely eliminated or restricted to situations where it will meet other resource objectives, such as fuel hazard reduction in recreation areas. Areas managed under Level A are not counted as full capacity range in the determination of livestock forage capacities.

Level B - Livestock grazing is very limited. Management is generally accomplished by moving livestock from one place to another. On areas managed under Level B, capacity and actual use are kept in balance by removing or adding livestock. There is very little structural improvement work done, such as fences or water development, and no forage improvement work.

Level C - Level C management controls livestock use through the use of structural improvements and physical movement of livestock. Long-term capacities are balanced with use through adjustments in numbers of livestock. Any forage improvement is generally the result of meeting other resource objectives, such as wildlife habitat improvement.

Level D - Areas under Level D management are managed intensively for livestock grazing within an overall multiple-use concept. Any structural or nonstructural [forage] improvement technique may be used as long as it fits with the natural environment. All reasonable and approved management techniques are applied to sustain capacity and use at high levels.

Level E - Level E management is applied to areas to achieve the maximum livestock production that the land can support. Any management technique can be applied as long as basic watershed values are protected. Some management activities, such as irrigating or large scale planting of non-native grass species, may change the natural character of the land.

Level U - Unsatisfactory level of grazing management in which the range is overstocked and the general trend in range condition is downward.

LOCAL ROADS - These roads connect terminal facilities with Forest collector or Forest arterial roads, or public highways. The location and standard are usually those required to serve a specific resource activity, such as campground access, or a timber sale, rather than overall travel efficiency.

LOCATABLE MINERALS - Those hardrock minerals which are mined and processed for the recovery of metals, and which qualify for the location of mining claims on public land. May include certain nonmetallic minerals such as valuable and distinctive deposits of limestone or silica. May include any solid natural inorganic substance occurring in the crust of the earth, except for the common varieties of mineral materials and leasable minerals. Locatable minerals are administered under the authority of the general mining laws.

LONG-TERM - Action governed by the Forest Plan generally taking place over a period longer than ten years from the present.

LONG-TERM SUSTAINED YIELD CAPACITY (LTSYC) - The highest uniform wood yield from lands being managed for timber production that may be achieved and sustained under a specified intensity of management consistent with multiple use objectives.

MAINTENANCE - The upkeep of all Forest development transportation facilities, including surfaces and shoulders, parking and side areas, structures, and such traffic control devices as are necessary for its safe and efficient utilization (36 CFR 212.1, FSM 1023.4, 7732.05). Maintenance is not for the purpose of upgrading a facility, but rather, to bring it to the originally constructed or subsequently reconstructed condition.

MANAGEMENT AREA - An area that has common direction throughout that differs from neighboring areas. The entire Forest is divided into management areas. Each is described, and policies and prescriptions relating to its use are listed.

MANAGEMENT CONCERN - A matter of importance to the management of the National Forest System Lands, which is identified internally by the agency. An issue or problem requiring resolution or a condition constraining management practices.

MANAGEMENT DIRECTION - A statement of multiple-use and other goals and objectives, the management prescriptions, and the associatd standards and guidelines for attaining them. (36 CFR 219.3[r] NFMA Regulations)

MANAGEMENT EMPHASIS - A reflection of allocation choices for an analysis area. Management emphasis, as used in FORPLAN, is a six-letter identifier used to describe (name) a prescription in FORPLAN.

MANAGEMENT INDICATOR SPECIES - See Indicator Species.

MANAGEMENT INTENSITY - The relative cost of a possible management direction and/or management practice.

MANAGEMENT OPPORTUNITY - A statement of general actions, measures, or treatments that address the public issue or management concern in a favorable way.

MANAGEMENT PRACTICE - A specific action, measure, or treatment.

MANAGEMENT PRESCRIPTION - Management practices selected and scheduled for application in a specific area to attain multiple use and other goals and objectives.

MANAGEMENT TEAM - Decision-making group consisting of the Forest Supervisor, Program Staff Officers, and District Rangers.

MARGINAL ANALYSIS - A type of analysis in which the only costs and benefits considered are those about which decisions can be made. Fixed benefits and costs are not considered.

MARKET-VALUED OUTPUTS - Goods and services valued in terms of what people are willing to pay for them rather than go without, as evidenced by market transactions.

MASS MOVEMENT - Downslope unit movement of a portion of the land's surface, i.e., a single landslide or the gradual simultaneous downhill movement of a whole mass of loose earth material on a slope face.

MAUM'S (THOUSAND AUM'S) - A symbol to indicate 1,000 animal unit months of grazing or range forage.

MAXIMUM MODIFICATION (VQO) - A visual quality objective meaning man's activity may dominate the characteristic landscape but should appear as a natural occurrence when viewed as background.

MBF (THOUSAND BOARD FEET MEASURE) - A symbol to indicate 1,000 board feet of wood fiber volume, either in log form or after conversion into lumber.

MEAN ANNUAL INCREMENT (MAI) - The total increase in girth, diameter, basal area, height, or volume of individual trees of a stand up to a given age divided by that age.

MIDDLEGROUND (VISUAL DISTANCE ZONE) - That part of a scene or landscape which extends from the foreground zone to three to 5 miles from the observer.

MIGRATION ROUTE - A travel route used routinely by wildlife in their seasonal movement from one habitat to another.

MIH CODES - Management Information Handbook codes for defined activities, outputs and effects.

MINERAL DEVELOPMENT - The preparation of a proven deposit for mining.

MINERAL ENTRY - The right under the General Mining Law of 1872, as amended, to enter nonwithdrawn public domain land, such as National Forests, and to explore for, extract, and sell certain locatable minerals; protected by the filing of a lode, placer, or mill site claim.

MINERAL ENTRY WITHDRAWAL - Public lands withdrawn from entry under the General Mining Laws and/or the mineral leasing laws.

MINERAL EXPLORATION - The search for valuable minerals on lands open to mineral entry.

MINERAL PRODUCTION - Extraction of mineral deposits.

MINERAL SOIL - Weathered rock materials without any vegetative cover.

MINERALS, COMMON VARIETY - Deposits which, although they may have value for use in trade, manufacture, the sciences, or in the mechanical or ornamental arts, do not possess a distinct, special economic value for such use over and above the normal uses of the general sum of such deposits. May include sand, stone, gravel, pumicite, cinders, pumice (except that occurring in pieces over two inches on a side), clay, and petrified wood. Common variety mineral material disposals are made under the authority of the Mineral Materials Act of 1947, as amended.

MINERALS, LEASABLE - Minerals such as coal, oil, gas, phosphate, sodium, potassium, oil shale, sulphur (in Louisiana and New Mexico), and geothermal steam which fall under the authority of the Mineral Leasing Act of 1920, as amended.

MINERALS, LOCATABLE - Those hardrock minerals which qualify for the location of mining claims on public land. Generally, they are mined and processed for the recovery of the minerals; often metallic. May include certain nonmetallic minerals and uncommon varieties of mineral materials such as valuable and distinctive deposits of limestone or silica. May include any solid, natural inorganic substance occurring in the crust of the earth, except for the common varieties of mineral materials and leasable minerals. Locatable minerals are administered under the authority of the general mining laws.

MINIMUM LEVEL MANAGEMENT - The management strategy that would meet only the basic statutory requirements of administering unavoidable, nondiscretionary land uses, preventing damage to adjoining lands in other ownerships, and protecting the life, health, and safety of incidental users.

MINIMUM STREAMFLOWS - A specified level of flow through a channel that must be maintained by the users of the stream for biological, physical, or other purposes.

MINING CLAIMS - That portion of the public estate held for mining purposes in which the right to exclusive possession of locatable mineral deposits is vested in the locator of those deposits.

MINING PATENTS - See patented mining claims.

MITIGATE - To lessen the severity.

MMBF (MILLION BOARD FEET MEASURE) - A symbol to indicate 1,000,000 board feet of wood fiber volume either in log form or after conversion into lumber.

MODIFICATION (VQO) - A visual quality objective meaning man's activity may dominate the characteristic landscape but must, at the same time, utilize naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed in foreground or middleground.

MONITORING AND EVALUATION - The periodic evaluation on a sample basis of Forest Plan management practices to determine how well objectives have been and how closely management standards have been applied.

MULTIPLE USE - The management of all various renewable surface resources of the National Forests so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.

NATIONAL ENVIRONMENTAL POLICY ACT - An act to declare a National policy which will encourage productive and enjoyable harmony between man and his environment, to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man, to enrich the understanding of the ecological systems and natural resources important to the Nation and to establish a Council on Environmental Quality.

NATIONAL FOREST LANDSCAPE MANAGEMENT SYSTEM - The art and science of planning and administering the use of forest lands in such ways that the visual effects maintain or upgrade man's psychological welfare. It is the planning and design of the visual aspects of multiple use land management.

NATIONAL FOREST MANAGEMENT ACT - A law passed in 1976 as amendments to the Forest and Rangeland Renewable Resources Planning Act that requires the preparation of Regional and Forest Plans and the preparation of regulations to guide that development.

NATIONAL FOREST SYSTEM LAND - National Forests, National Grasslands, and other related lands for which the Forest Service is assigned administrative responsibility.

NATIONAL RECREATION TRAILS - Trails designated by the Secretary of the Interior or the Secretary of Agriculture as part of the National system of trails authorized by the National Trails System Act. National recreation trails provide a variety of outdoor recreation uses in or reasonably accessible to urban areas.

NATIONAL REGISTER OF HISTORIC PLACES - A listing (maintained by the National Park Service) of areas which have been designated as being of historical significance. The Register includes places of local and state significance as well as those of value to the Nation as a whole.

NATIONAL WILD AND SCENIC RIVER SYSTEM - Rivers with outstanding remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values designated by Congress under the Wild and Scenic Rivers Act for preservation of their free-flowing condition.

NATIONAL WILDERNESS PRESERVATION SYSTEM - All lands covered by the Wilderness Act and subsequent wilderness designations, irrespective of the department or agency having jurisdiction.

NEPA - See National Environmental Policy Act.

NFMA - See National Forest Management Act.

NO ACTION ALTERNATIVE - The most likely condition expected to exist in the future if current management direction would continue unchanged.

NON-COMMERCIAL FOREST LAND - See "[Forest Land] Not Capable."

NON-DECLINING YIELD - A level of timber production designed so that the planned sale and harvest for any future decade is equal to or greater than the total planned sale and harvest for the preceding decade.

NON-FOREST LAND - Land that has never supported forests and lands formerly forested where use for timber utilization is precluded by development for other use. Includes areas used for crops, improved pasture, residential areas, improved roads of any width and adjoining clearings, and powerline clearing of any width. If intermingled in forest areas, unimproved roads and non-forest strips must be more than 120 feet wide, and clearing more than one acre in size to qualify as non-forest land. The non-forest land is classified as land not suited for timber production.

NON-GAME SPECIES - Animal species that are not usually hunted. This classification is determined by the State Legislature.

NON-STRUCTURAL RANGE IMPROVEMENT - An improvement to grazing land consisting of a modification of existing vegetation. Examples are spraying or plowing sagebrush and seeding to grass.

NONCOMMODITY OUTPUTS - A resource output that cannot be bought and sold.

NONCONSUMPTIVE USE - Those uses of resources that do not reduce the supply. For example: Nonconsumptive uses of water included hydroelectric power generation, boating, swimming, etc.

NONDECLINING YIELD - A level of timber production designed so that the planned sale and harvest for any future decade is equal to or greater than the total sale and harvest for the preceding decade.

NONMARKET VALUED OUTPUTS - Goods and services valued in terms of what reasonable people would be willing to pay rather than go without the output. Those obtaining the outputs do not pay all or part of what they would be willing to.

NONPOINT SOURCE POLLUTION - Sources of pollution that are diffuse in origin, their transportation into receiving water not well defined or constant, their discharge occurring at many diffuse locations, and depending heavily on weather conditions such as rainstorms or snowmelt. Pollution from forest management is of this type.

NOTICE OF INTENT - Written notice to the affected District Ranger by those who intend to engage in mining activity on the Forest.

NOXIOUS WEED - A noxious, destructive, or troublesome plant when found to be in epidemic proportions and of economic importance to threaten the public welfare.

OBJECTIVE - A clear and specific statement of planned results to be achieved within a stated time period. The results indicated in the statement of objectives are those which are designed to achieve the desired condition represented by the goal. An objective is measurable and implies precise time-phased steps to be taken and resources to be used which, together, represent the basis for defining and controlling the work to be done.

OBJECTIVE FUNCTION - A term in linear programming describing the criterion to be optimized in the model. Examples of objective functions are: maximize timber, maximize livestock forage, or maximize present net value.

OBLITERATION - The returning of the land occupied by a road or trail to resource production.

OCCUPANCY TRESPASS - The illegal occupation or possession of National Forest Land.

OLD-GROWTH - The last stage in forest succession. Old-growth habitat is the sum of the physical and biological components of old-growth forest that are essential to maintaining populations of certain old-growth dependent species of wildlife.

ON-SITE SOIL LOSS - The movement of soil away from one point to another location.

OPERATIONS PLAN - A written plan, approved by a Forest Officer, prepared by those engaged in mining activity on the Forest, describing mining and mineral processing activities that will likely cause a significant disturbance of surface resources. An approved Plan of Operations is required prior to an operator undertaking any exploration or development activities which may cause significant surface disturbance.

OPPORTUNITY COSTS - The value of the benefits foregone or given up due to the effect of choosing another management alternative that either impacts existing outputs or shifts resources away from other activities so that they are no longer produced and their benefits are lost.

ORV - Off-road vehicles; this includes all mechanical means of transportation; passenger cars, four-wheel-drive vehicles, trail bikes, and snowmobiles that are capable of traveling over land where no road exists.

OUTPUT COEFFICIENT - Values which relate an acre of land to a particular quantity of output in a specific period of time.

OUTPUTS - The goods, services, products, and concerns which are measurable and capable of being used to determine the effectiveness of programs and activities in meeting objectives. Also goods, end products, or services that are purchased, consumed, or utilized directly by people. A broad term for describing any result, product, or service that a process or activity actually produces.

OVERSTORY - That portion of the forest of more than one story forming the upper layer or uppermost canopy.

PAOT - See "Persons-At-One-Time."

PARTIAL RETENTION (VQO) - A visual quality objective which in general means man's activities may be evident but must remain subordinate to the characteristic landscape.

PARTICULATES - Small particles suspended in the air and generally considered pollutants.

PATENTED MINING CLAIM - A mining claim to which the Federal Government has granted the claimant all surface and some or all mineral rights. Patented mining claims are private land and may be sold or used for purposes other than mining, such as residential or recreational use.

PERENNIAL STREAM - Streams that flow throughout the year and from source to mouth.

PERMITTED GRAZING - Use of a National Forest range allotment under the terms of a grazing permit.

PERSONS-AT-ONE-TIME (PAOT) - A recreation-capacity measurement term indicating the number of people that can comfortably occupy and use a facility or area at one time.

PLANNING AREA - The area covered by a Regional or Forest Plan.

PLANNING CRITERIA - Standards, tests, rules, and guidelines by which the planning process is conducted and upon which judgements and decisions are based.

PLANNING HORIZON - The overall time period considered in the planning process that spans all activities covered in the analysis or plan and all future conditions and effects of proposed actions which would influence the planning decisions.

PLANNING PERIOD - One decade. The time interval within the planning horizon that is used to show incremental changes in yields, costs, effects and benefits.

PLANNING PROCESS - A system that records decisions and activities that result from the process of developing, revising or amending a Forest Plan.

PLANTATION - A forest crop or stand established by seeding or planting of young trees.

POLE TIMBER - As used in timber survey, a size class definition, trees 5.0 to 8.9 inches at DBH. As used in logging operations, trees from which pole products are produced, such as telephone poles, pilings, etc.

POLICY - A guiding principle on which to base a specific decision or set of decisions.

POTHUNTING - Slang term used by professional archaeologists to describe illegal or non-professional collecting of relics.

PRACTICE - See management practice.

PRECOMMERCIAL THINNING - The selective felling, killing, or removal of trees in a young stand primarily to accelerate diameter growth on the remaining stems, maintain a specific stocking or stand density range, and improve the vigor and quality of the trees that remain. A thinning done in a stand of trees not yet of commercial size.

PREDATOR - An animal species that kills and feeds on other animals.

PREPARATORY CUT - Removal of trees near the end of a rotation so as to permanently open the canopy and enlarge the crowns of seed bearers, with the intent of improving conditions for seed production and natural regeneration, as typically in shelterwood systems.

PRESCRIBED FIRE - The intentional application of fire to wildlands fuels under such conditions as allow the fire to be confined to a predetermined area and at the same time to produce the intensity of heat and rate of spread required to further certain planned objectives of silviculture, wildlife management, etc.

PRESCRIPTION - See management prescriptions.

PRESENT NET VALUE - The difference of net benefits and net costs, each discounted to the present.

PRESERVATION (VQO) - A visual quality objective that provides for ecological change only.

PRESUPPRESSION - Activities required in advance of fire occurrence to ensure effective suppression action. Includes (1) recruiting and training fire forces; (2) planning and organizing attack methods; (3) procuring and maintaining fire equipment and other facilities necessary for the fire program.

PRIMARY CAVITY NESTERS - Wildlife species that excavate cavities in trees for nest sites.

PRIMITIVE ROS CLASS - A classification of the recreation opportunity spectrum characterized by an essentially unmodified environment, where trails may be present but structures are rare, and where there is isolation from the sights and sounds of man.

PRODUCTION POTENTIAL - The capability of the land or water to produce living organisms and their useful features (forage, habitat, wood, etc.).

PRODUCTION-UTILIZATION SURVEYS (P-U SURVEYS) - Surveys of range land to determine where and how much forage is being produced, and how it is being used.

PRODUCTIVITY - See site productivity.

PROGRAM DEVELOPMENT AND BUDGETING - The process by which activities for the Forest are proposed and funded through the Federal Budget.

PROPOSED ACTION - In terms of the National Environmental Policy Act, the project, activity, or action that a Federal agency intends to implement or undertake and is the subject of an environmental assessment.

PUBLIC ACCESS - A road or trail route over which a public agency claims a right-of-way available for public use.

PUBLIC ISSUE - A subject or question of widespread public interest relating to the planning problem.

PUBLIC PARTICIPATION ACTIVITIES - Meetings, conferences, seminars, workshops, tours, written comments, response to survey questionnaires, and similar activities designed and held to obtain comments from the general public and specific publics about National Forest System land management planning.

RANGE ALLOTMENT - A designated area of land available for livestock grazing upon which a specified number and kind of livestock may be grazed under a range allotment management plan.

RANGE CAPACITY LEVELS - Levels are described as follows:

> No allowable capacity - Lands that are incapable of sustaining grazing by livestock under reasonable management goals. Examples include areas that are incapable of producing vegetation, soils that cannot produce vegetation at a satisfactory rate to protect itself from erosion, and slopes over 45 percent.
>
> Potential Capacity - Lands presently presently incapable of sustaining grazing, but which could be grazed if a management or other improvement were made. Examples are areas denuded but which could be revegetated, areas having a dense tree cover and no forage, or areas requiring access or water development to bring them up to full capacity.

Full Capacity - Land presently stable because effective ground cover is holding soil loss to acceptable levels, where forage is being produced and which is accessible and available to livestock.

RANGE CONDITION - The state of the plant community on a range site in relation to the potential natural plant community for that site. It is usually rated in the general categories of Poor, Fair, Good, or Excellent.

RANGE CONDITION TREND - The direction of change in range condition and soil productivity.

RANGE INVENTORY (ANALYSIS) - The systematic collection and analysis of resource information needed for managing rangeland. Examples are mapping and measuring plant composition, density and vigor.

RANGELAND (RANGE) - Land that supports vegetaion useful for grazing. Vegetation is routinely managed throurh manipulation of grazing animals rather than cultural practices.

RANGER DISTRICT - An administrative subdivision of the Forest supervised by a District Ranger who reports to the Forest Supervisor.

RARE II - See Roadless Area Review and Evaluation II.

REAL INCOME - Income based on real dollar values (values from which the effect of change in purchasing power of the dollar has been removed).

RECORD OF DECISION -Under CEQ Regulations, a document separate from but associated with an environmental impact statement that publicly and officially discloses the responsible official's decision on the proposed action.

RECREATION CAPACITY - The number of people that can take advantage of the supply of recreation opportunity without substantially diminishing the quality of the experience sought after.

RECREATION OPPORTUNITY SPECTRUM - A land classification system which categorizes National Forest land into six classes, each class being defined by its setting and by the probable recreation experiences and activities it affords. The six classes in the spectrum are primitive, semi-primitive, non-motorized, semi-primitive motorized,roaded natural, rural, and urban.

RECREATION RESIDENCE SITE - House or cabin permitted on National Forest land for the recreational use of the owner, but not as a primary residence.

RECREATION VISITOR DAY (RVD) - Recreational use of National Forest land which aggregates twelve hours. It may consist of one person for twelve hours, two people for six hours, or any combination that totals twelve hours.

RECREATIONAL RIVER - Wild and Scenic Rivers Act Usage. Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some devlopment along their shorelines, and that may have undergone some impoundment or diversion in the past.

REDUCED SERVICE MANAGEMENT - Management of developed recreation facilities below optimum maintenance standards.

REFORESTATION - The natural or artificial restocking of an area with forest trees.

REGENERATION - (1) The actual seedlings and saplings existing in a stand. (2) The act of establishing young trees naturally or artificially.

REGENERATION CUT - Removal of trees with the intention of establishing a new crop of seedlings.

REGIONAL FORESTER - The Forest Service official responsible for administering a single Region.

REGIONAL GUIDE - The plan developed to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended, that guides all natural resource management activities and established management standards and guidelines for the National Forest System lands of a given Region. It also disaggregates the RPA objectives assigned to the Region to the Forests within that Region.

REGULATED FOREST - Forest land managed for timber production under sustained yield principles.

REGULATIONS - 36 CFR refers to the Code of Federal Regulations for implementing the National Forest Management Act.

RESEARCH NATURAL AREAS - An area in as near a natural condition as possible which exemplifies typical or unique vegetation and associated biotic, soil, geologic, and aquatic features. This area is set aside to preserve a representative sample of an ecological community primarily for scientific and educational purposes; commercial and general public use is not allowed.

RESOURCE DATA BASE - Information about resources stored in a computerized system.

REST-ROTATION - A grazing schedule in which the pastures being grazed receive a year of rest for plant recovery.

RETENTION (VQO) - A visual quality objective which in general, means man's activities are not evident to the casual forest visitor.

REVEGETATION - The reestablishment and development of plant cover. This may take place naturally through the reproductive processes of the existing flora or artificially through seeding, planting, or other action.

RIGHT-OF-WAY - Land authorized to be used or occupied for the construction, operation, maintenance, of a project facility passing, over, upon, under, or through such land.

RIPARIAN - Referring to land adjacent to perennial streams, lakes, and reservoirs and including other well developed riparian vegetation (primarily intermittent streams). This land is specifically delineated by the transition ecosystem and defined by soil characteristics and distinctive vegetation communities that require free and unbound water.

ROAD DENSITY - The measure of the degree to which the length of road miles occupies a given land area, i.e., 1 mi/sq. mi. is one mile of road within a given square mile.

ROAD MAINTENANCE LEVELS - Levels are described as follows:

> Level 1: Road normally closed to vehicle traffic. Basic custodial care to protect surrounding resources and the road investment.
>
> Level 2: Road open to traffic- Level 1 care plus minimum maintenance for passage of high clearance vehicles.
>
> Level 3: Road open for public traffic - Level 2 care plus maintence needed for safe passenger car useage. User comfort (smooth surface) is not emphazised.
>
> Level 4: Road open for public traffic. Level 3 care plus more consideration for safety at higher speeds and more traffic volume. User comfort is a consideration.
>
> Level 5: Road open to public traffic. Level 4 care plus maintenance needed to ensure user safety and comfort. Maintained for highest traffic volumes.

ROAD PRISM - The geometric features of a road structure including all the disturbed area within a given portion of road. These features include the cut bank, ditch, travel surface, and the fill slope.

ROADED NATURAL ROS CLASS - A classification of the Recreation Opportunity Spectrum that characterizes a predominantly natural environment wioth evidence of moderate permanent alternate resources and resource utilization. Evidence of the sights and sounds of man is moderate, but in harmony with general environment. Opportunities exist for both social interaction and moderate isolation from sights and sounds of man.

ROADLESS AREA - Undeveloped Federal land within which there are no roads maintained for travel by means of motorized vehicles.

ROADLESS AREAS REVIEW AND EVALUATION II (RARE II) - A National program which had the purpose of identifying areas for wilderness and making recommendations to Congress regarding their designation.

RODENTICIDE - An agent that kills, repels, or controls rodents.

ROS CLASS - See "Recreation Opportunity Spectrum."

ROTATION - The planned number of years between the start of a crop of trees and their final harvest. The rotation age will vary according to geographic location, tree species, and management objectives.

ROUNDWOOD - Trees that are used without being milled (fence posts, telephone poles, pulpwood, etc.).

RPA - The Forest and Rangeland Renewable Resources Planning Act of 1974. Also refers to the National Assessment and Recommended Program developed to fulfill the requirements of the Act. The most recent recommended program was done in 1980.

RPA NATIONAL ASSESSMENT - A document compiled by the Secretary of Agriculture every ten years which contains facts and analyses to develop and guide public and private forest and range land policies and programs.

RPA NATIONAL PROGRAM - A document compiled by the Secretary of Agriculture every five years which outlines Forest Service programs for National Forest System management, cooperative assistance to States and private landowners, and research.

RURAL ROS CLASS - A classification of the Recreation Opportunity Spectrum that characterizes an area in which the sights and sounds of man are prevalent and the landscape has been considerably altered by the works of man.

RVD - See "Recreation Visitor Day."

SALVAGE CUTTING - Done to harvest trees in imminent danger of being killed or damaged by injurious agents. Dead and dying trees are included in salvage cuttings.

SAPLING - As used in timber survey, a size class definition; trees 1.0 to 4.9 inches at DBH.

SATELLITE IMAGERY - A pictorial representation of the earth obtained from a satellite.

SATISFACTORY RANGE CONDITION - Rangeland in range condition clas of at least fair with stable or upward trend.

SATISFACTORY WATERSHED CONDITION - Ground cover conditions are effectively maintaining land productivity, and the frequency and severity of damaging floods is within management tolerances.

SAWTIMBER - Trees that will yield logs suitable in size and quality for the production of lumber.

SCARIFICATION - Loosening the topsoil in open areas to prepare for planting, seeding or natural seedfall.

SCENIC EASEMENT - Relative to the Wild and Scenic Rivers Act (P.L. 93-621) 1975, and by definition of the act; the right to control the use of land (including the air space above such land) within the authorized boundaries of a component of the Wild and Scenic Rivers System, for the purpose of protecting the natural qualities of a designated wild, scenic or recreational river area, but such control shall not affect, without the owner's consent, any regular use exercised prior to the acquisition of the easement.

SCENIC RIVER - Wild and Scenic Rivers Act usage. Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

SCOPING PROCESS [NEPA usage] - The public and management activities used to determine the range of actions, alternatives, and impacts to be considered in an environmental impact statement.

SEDIMENT - solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water,gravity, or ice and has come to rest on the earth's surface either above or below sea level.

SEED CUT - A cutting which leaves adequately spaced seed-bearing trees and opens the stand to provide conditions for restocking and establishment of a new stand of trees. Under a shelterwood system, the first of the shelterwood cuttings.

SEEDLING - As used in timber survey, a size class definition; trees less than one inch at DBH.

SELECTION CUTTING - The annual or periodic harvest of trees, usually the oldest or largest trees, individually or in small groups from an uneven-aged forest, as a means for encouraging continous natural reproduction and maintenance of an uneven-aged condition.

SEMI-PRIMITIVE MANAGEMENT AREA - A wilderness management area characterized by moderate opportunity for solitude in a predominately unmodified natural environment, with a moderate degree of trail maintenance.

SEMI-PRIMITIVE MOTORIZED ROS CLASS - A classification of the Recreation Opportunity Spectrum characterized by moderately dominant alterations by man, with strong evidence of primitive roads and trails.

SEMI-PRIMITIVE NON-MOTORIZED ROS CLASS - A classification of the Recreation Opportunity Spectrum characterized by few modifications by man, and with high probability of isolation from the sights and sounds of man.

SENSITIVE AREAS - Areas of high erosion hazard, areas that may be susceptible to compaction, or areas of unstable slopes.

SENSITIVE SPECIES - Those plant and animal species identified for a Region for which population viability is a concern.

SENSITIVITY LEVEL - As used in Visual Quality Management; a particular degree or measure of viewer interest in the scenic qualities of the landscape.

SERAL - A transitory, developmental stage in the process of ecological succession for a biotic community.

SHEET EROSION - The removal of a fairly uniform layer of soil from the land surface by runoff water, without the development of conspicuous water channels.

SHELTERWOOD CUT - An even-age regeneration system designed to establish a new crop under a protion of the old stand, which provides both the seed source and shelter for the new seedlings. The mature trees are removed in two or more cuts. (1) The preparatory cut removes a portion of the mature trees and is intended to make the remaining trees more wind firm; preparatory cuts may be omitted where windfall is not a major concern. (2) The seed cut removes additional trees with the intent of allowing additional sunlight to reach the forest floor. The new trees become established following the seed cut. (3) The removal cut removes the last of the mature trees.

SHRUB/SEEDLING - A forest successional stage in which shrubs and seedling trees are the dominant vegetation.

SIGHT DISTANCE - In wildlife management, the distance at which hiding cover is effective. (See hiding cover)

SILVICULTURAL SYSTEM - The entire process by which forest stands are tended, harvested, and replaced. It includes all cultural practices performed during the life of the stand such as regeneration cutting, thinning, improvement cutting, and use of genetically improved sources of tree seeds and seedlings. Silvicultural systems can be distinguished as either even- or uneven-aged.

SITE PREPARATION - Preparation of the ground surface before planting or preparing a seedbed for natural regeneration; includes removal of unwanted vegetation, slash, stumps, and roots from a site.

SKID TRAIL - Travelway used to drag or transport trees from the stump to the road.

SLASH - Debris left after logging, pruning, thinning, or brush cutting. It includes logs, branches, bark, and stumps.

SMALL GAME - Birds and small mammals normally hunted or trapped.

SNAG - Standing dead tree larger than six inches in diameter at breast height.

SOFT SNAG - A standing dead tree from which the leaves and most of the branches have fallen and which has started to rot internally.

SOFTWOOD - A conventional term for both the timber and trees belonging to the botanical group, Gymnospermae.

SOIL PRODUCTIVITY - The capacity of a soil in its normal environment, to produce a specific plant or sequence of plants under a specific system of management.

SOIL SURVEYS - Systematic examinations of soils in the field and in laboratories for the purpose of describing, mapping and classifying them according to their adaptability and behavior. There are 5 classified orders of surveys, with order 1 being the highest intensity through order 5 (lowest intensity).

SPECIAL CUTTING - Removal of trees for other than silvicultural purposes. This applies to unregulated area such as developed recreation and administrative sites where other uses or values are overriding.

SPECIAL USE PERMIT - A permit issued under established laws and regulations to an individual, organization, or company for occupancy or use of National Forest land for some special purpose.

STAND - An aggregation of trees or other growth occupying a specific area and sufficiently uniform in composition (species), age arrangement, and condition as to be distinguishable from the forest or other growth on adjoining areas.

STAND EXAMINATION SURVEYS - Procedures used to collect data on Forest stands.

STANDARD - A principle requiring a specific level of attainment, a rule to measure against.

STATE AIR QUALITY REGULATIONS - The legal guidelines for control of air pollution sources in a state.

STRUCTURAL DIVERSITY - Variety in a forest stand that results from layering or tiering of the canopy. An increase in layering leads to an increase in structural diversity.

STRUCTURAL RANGE IMPROVEMENT - Any type of range improvement that is man-made (fences, corrals, etc.).

SUBDIVISIONS - Subdivided land. Areas of previously undeveloped land divided into individual homesites and/or blocks of lots with streets or roads and open spaces.

SUBSOIL - The layer below the soil surface in which roots normally grow.

SUCCESSION - Ecologic succession. An orderly process of biotic community development that involves changes in species, structure, and community processes over time.

SUITABILITY - The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices.

SUITABLE RANGE - Range which is accessible to livestock or wildlife, and which can be grazed on a sustained yield basis without damage to long-term productivity.

SUITABLE TIMBER LANDS - Forest lands which can be managed for timber production on a sustained yield basis without damage to long term productivity.

SUPPLY - A schedule of the quantity of a product or forest output that will be produced at various prices.

SUPPRESSION (FIRE SUPPRESSION) - Any act taken to slow, stop, or extinguish a fire. Examples of suppression activities include line construction, backfiring, and application of water or chemical fire retardants.

SUSTAINED YIELD - The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the National Forest without impairment of the productivity of the land.

TARGETS - Objectives assigned to the Forest by the Regional Plan.

TENTATIVELY SUITABLE FOREST LAND - Land for which technology is available that will ensure timber production without irreversible resource damage to soils, productivity, or watershed conditions. There is reasonable assurance that such lands can be adequately restocked as provided in CFR 219.13(h)(3).

TEMPORARY ROAD - A road that will be physically obliterated and seeded after its primary use is completed (i.e., spur road for logging); it will never be used again. (See TERMINAL ROAD)

TERMINAL ROAD - A road closed for a period of time (such as the interval between timber sales in an area), but planned to remain in place and be used again in the future.

THINNING - Cutting made in an immature crop or stand, primarily to accelerate the diameter increment (annual growth) of the residual trees, but also by suitable selection, to improve the average form of the trees that remain.

THERMAL COVER - Cover used by animals to reduce effects of weather; for elk, a stand of coniferous trees forty feet or more tall with an average crown closure of seventy percent or more, and a minimum of thirty acres in size.

THREATENED AND ENDANGERED SPECIES - Threatened and endangered species are animals or plants identified by the Secretary of Interior in accordance with the 1973 Endangered Species Act. Threatened and endangered are separate classifications. Endangered means any species in danger of extinction throughout all or a significant part of its range. Threatened means any species that is likely to become endangered within the foreseeable future throughout all or a significant part of its range. Candidate species are: Category 1 are those species for which there is sufficient information to support listing, Category 2 are those species for which information is actively being sought to determine their status, and Category 3 are those species no longer being considered for listing, but which may be reevaluated if conditions warrant it.

THREE-STEP SHELTERWOOD - An even-aged silvicultural system in which in order to provide a source of seed and/or protection for regeneration, the old crop (shelterwood) is removed in three successive cuttings.

TIERING - Refers to the concept, when preparing an environmental impact statement, of avoiding repetitive discussions of any issues already covered in another, broader, environmental review. Subsequent environmental documents can incorporate issues already discussed in previous documents by reference only and concentrate on issues specific to the subsequent action.

TIMBER - A general term for the major woody growth of vegetation in a forest area.

TIMBER BASE - The lands within the Forest capable, available, and suitable for timber production.

TIMBER HARVEST SCHEDULE - The quantity of timber planned for sale and harvest, by time period, from the area of land covered by the Forest Plan. The first period, usually a decade, of the selected harvest schedule provides the allowable sale quantity. Future periods are shown to establish that sustained yield will be achieved and maintained.

TIMBER PRODUCTION - The growing, tending, harvesting, and regeneration of regulated crops of industrial wood. Industrial wood includes logs, bolts, or other round sections cut from trees for industrial or consumer use, except fuelwood.

TIMBER SALE - See commercial timber sale.

TIMBER STAND IMPROVEMENTS (TSI) - A loose term comprising all intermediate cuttings made to improve the composition, constitution, condition, and growth of a timber stand.

TOPSOIL - The original or present dark-colored upper soil that ranges from a mere fraction of an inch to two or three feet deep.

TRACTOR LOGGING - Any logging method which uses a tractor as the motive power for transporting logs from the stumps to a collecting point, whether by dragging or carrying the logs.

TRAFFIC SERVICE LEVELS - Definitions of traffic service levels used as a basis for designing appropriate roads to fit the expected need. These are:

Level A - Traffic is free flowing and mixed, with adequate passing facilities, and will accomodate expected traffic volume without restricting use. Safety features are a part of the design. User costs are minimized. Road surface is stable, smooth and relatively dust free for the normal use season.

Level B - Similar to Level A, but accepts that congestion will occur, and some traffic controls will be needed during peak use periods.

Level C - Traffic flow is slow and restricted, and may require backing or stopping to permit passing. User costs are considered, and a mix of users is allowed.

Level D - Traffic flow is slow and restricted. Two way traffic may require backing to pass. Traffic volume is intermittent and normally associated with a single purpose. Minimal safety features are included. User costs are given little consideration. The road surface may be rough and irregular. Rutting and dusting is controlled only for soil and water protection.

TRAILHEADS - The parking, signing, and other facilities available at the terminus of a trail.

TRANSITORY RANGE - Land that is suitable for grazing use of a temporary nature over a period of time. For example, on particular disturbed lands, grass may cover the area for a period of time before being replaced by trees or shrubs not suitable for forage.

TRANSMISSION PIPELINE - A pipeline which carries gas or liquid from a producing field for central collection facility to a storage or consumption facility, usually over long distances.

TRAVEL MANAGEMENT - The administrative decision on the location and timing of road and trail closures.

TREE OPENING - An opening in the forest cover created by the application of even-aged silvicultural practices.

TRESPASS - The act of going on another's land or property unlawfully.

TSI - See "Timber Stand Improvement."

TWO-STEP SHELTERWOOD - An even-aged silvicultural system in which, in order to provide a source of seed and/or protection for regeneration, the old crop (the shelterwood) is removed in two successive cuttings.

TYPE CONVERSION - The conversion of the dominant vegetation in an area from forested to nonforested or one tree species to another.

UNCONSTRAINED MAXIMUM - Level of management defined as the highest possible level of a given output along with the costs associated with achieving it.

UNDERSTORY - The trees and other woody species growing under a more or less continuous cover of branches and foliage formed collectively by the upper portion of adjacent trees and other woody growth (the overstory).

UNEVEN-AGED SILVICULTURE SYSTEMS - The combination of action that result in the creation of forests or stands of trees, in which trees of several or many ages grow together. Cutting methods that develop and maintain uneven-aged stands are individual tree and group selection cutting methods.

UNPATENTED MINING CLAIM - A claim made for possession of locatable minerals on public domain land (e.g., National Forests). A properly recorded claim entitles the claimant to reasonable access to the claim and exclusive right to extract and sell valuable minerals from the claim. Unpatented mining claims may be occupied and used solely for mining and related activity.

UNREGULATED HARVEST - This harvest is not charged against the allowable sale quantity, and includes occasional volumes removed that were not recognized in calculations of the allowable sale quantity, such as cull or dead material and noncommercial species and products. It also includes all volume removed from nonsuitable areas. Harvests from nonsuitable areas will be programmed as needed for objectives such as research on experimental forests, to meet multiple use objectives such as research on experimental forests, to meet mutiple use objectives other than timber production, and for improvement of administrative sites.

UNSATISFACTORY RANGE CONDITION - Rangeland in poor or very poor range condition or in fair condition with a downward trend.

UNSATISFACTORY WATERSHED CONDITION - Effective ground cover conditions are such that impairment of land productivty is occuring. The probability and frequency of damaging peak flows exceeds tolerable levels.

UNSUITABLE LANDS - Lands not allocated to timber management or not suitable as determined through the suitability analysis.

URBAN ROS CLASS - A classification of the Recreation Opportunity Spectrum in which the natural setting is dominated by man-made structures and the sights and sounds of man predominate.

USC - United States Code. A codification of all the general and permanent laws.

UTILITY CORRIDOR - A tract of land of varying width forming a passageway through which various commodities such as oil, gas, and electricity are transported.

UTILIZATION STANDARDS - Standards established to guide the use and removal of timber and measured in terms of minimum size and percent soundness.

VARIETY CLASS - A classification system for establishing three visual landscape categories according to the relative importance of the visual features. This classification system is based on the premise that all landscapes have some visual values, but those with the most variety or diversity of visual features have the greatest potential for having a high scenic value.

VEGETATIVE MANIPULATION - The change of one vegetation type to another through some land treatment such as fire, chemicals, etc. This is done to improve forage production, benefit wildlife habitat, or achieve some other desired result.

VERTICAL DIVERSITY - The diversity in an area that results from the complexity of the above ground structure of the vegetation; the more tiers of vegetation or the more diverse the species make-up, or both, the higher the degree of vertical diversity.

VIABLE POPULATIONS - A wildlife or fish population of sufficient size to maintain its existence over time in spite of normal fluctuations in population levels.

VIS (VISITOR INFORMATION SERVICES) - A service provided to the public by National Forests in which the public is supplied with information regarding activities and features on National Forest land.

VIS SITE - Visitor Information Service Site which provides interpretative information (directional, historical, geographic, natural history, etc) to the public.

VISITOR DAY - A statistical measure of visitor use. The use of an area for a total of twelve person hours by one or more people, either continuously or over several visits.

VISUAL DISTANCE ZONES - Areas of landscapes denoted by specified distances from the observer. Used as a frame of reference, in which to discuss landscape characteristics or activities of man. The three zones are Foreground, Middleground, and Background.

VISUAL MANAGEMENT PROGRAM - Also refereed to as "Landscape Management" or "Visual Resource Management"; guiding the use of forest lands in such ways that the visual effects maintain or upgrade the human visual experience. It is the planning and design of visual aspects of multiple-use land management.

VISUAL QUALITY OBJECTIVE (VQO) - A desired level of excellence based on physical and sociological characteristics of an area. Refers to the degree of acceptable alterations of the characteristic landscape.

Preservation (P). In general, human activities are not detectable to the visitor.

Retention (R). In general, human activities are not evident to the casual Forest visitor.

Partial Retention (PR). In general, human activities may be evident but must remain subordinate to the characteristic landscape.

Modification (M). Human activity may dominate the characteristic landscape but must, at the same time, utilize naturally established form,line,color, and texture. It should appear as a natural occurrence when viewed in middleground or background.

Maximum Modification (MM). Human activity may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as background.

Enhancement. A short-term management alternative wich is done with the express purpose of increasing positive visual variety where little variety now exists.

VISUAL RESOURCE - The composite of basic terrain, geologic features, water features, vegetative patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have for visitors.

WATER YIELD - The total net amount of water produced on the Forest including streamflow and groundwater recharge.

WATERSHED - The entire area that contributes water to a drainage or stream.

WATERSHED CONDITION - A description of the health of a watershed, or portion thereof, in terms of the factors that affect hydrologic function and soil productivity.

WETLANDS - Areas with shallow standing water or seasonal to year-long saturated soils (includes bogs, marshes, and wet meadows).

WFUD (WILDLIFE AND FISH USER DAY)- A unit for measuring wildlife and fish recreation user activities. A unit is the combination of use which aggregates to twelve visitor hours.

WHEELED SKIDDERS - A motorized wheeled vehicle specifically designed to skid logs.

WILD AND SCENIC RIVER CORRIDOR - See "Wild River" and "Scenic River."

WILD RIVER - Wild and Scenic Rivers Act usage. Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted.

WILDERNESS - Under the 1964 Wilderness Act, wilderness is undeveloped Federal land retaining its primeval character and influence without permanent improvements or human habitation. It is protected and managed so as to preserve its natural conditions which (1) generally appear to have been affected primarily by the forces of nature with the imprint of man's activity substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and confined type of recreation; (3) has at least 5,000 acres or is of sufficient size to make practical its condition; and (4) may contain features of scientific, educationak, scenic, or historical value as well as ecologic and geologic interest.

WILDERNESS RECREATION OPPORTUNITY MANAGEMENT AREAS - Delineated areas in wilderness which have different use characteristics and degrees of trail development. The four management areas are Transition, Semi-primitive, Primitive, and Pristine.

WILDERNESS STUDY AREA (WSA) - One of the areas selected by Congress from an inventory of unroaded and undeveloped National Forest lands as having apparent high qualities for wilderness. They will be studied to determine whether they should be recommended for addition to the National Wilderness Preservation System.

WILDFIRE - Any wildland fire that requires a suppression action. This includes all fires not meeting the requirements of a prescribed fire.

WILDLIFE HABITAT - The sum total of environmental conditions of a specific place occupied by a wildlife species.

WILDLIFE STRUCTURE - A site specific improvement of a wildlife or fish habitat, such as a spring development or dugout to provide water, brushpile for cover, nestbox for birds, or rock and log placement in a stream for fish cover and pool creation.

WINTER RANGE - The area occupied by an animal species during the winter.

WITHDRAWAL - Withholding an area of Federal land from settlement, sale, location, or entry, under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program.

WORK CENTER - A facility where crews assemble and are directed toward their various work assignments. A work center can be located at an administrative site. A work center normally will include storage and shop facilities and may include crew housing.

Appendices

Appendix A – Description of Work Activities and Definitions

Code	Description of Work Activity and Definition
A01	RECREATION PLANNING: This activity includes all work associated with the development, revision or review of composite plans, special area studies, ORV plans, visual resource plans, interpretative plans, trail plans, and cultural resource plans, including their EA/EIS reports. These plans are developed to provide input to, or meet objectives developed in the land management planning process. The unit of measure is PLANS.
A02	INVENTORY: This activity includes all work associated with the inventory of recreation, cultural, and visual resources. The unit of measure is ACRES.
A03	CULTURAL RESOURCE EVALUATION AND ASSESSMENTS: This activity includes all work associated with assessments and evaluation of cultural resource values. The unit of measure is PROPERTIES.
A04	CULTURAL RESOURCE PROTECTION AND ENHANCEMENT: This activity includes the work associated with the protection, mitigation, and enhancement of cultural resource properties. The unit of measure is PROPERTIES.
A05	FACILITY AND SITE RECONSTRUCTION: This activity includes all work associated with development of plans, surveys and designs for the reconstruction and or rehabilitation of recreation and interepretive facilities to its orginally designed PAOT capacity. The unit of measure is PAOT.
A06	FACILITY AND SITE CONSTRUCTION: This activity includes all work associated with the development of site plans, surveys, and designs and the construction of new recreation and intepretive facilities. The unit of measure is PAOT.
A07	FACILITY AND SITE MANAGEMENT: This activity includes all work associated with the administration, operation, and maintenance of recreation and interpretive sites and facilities. The unit of measure is PAOT DAYS.
A08	USE ADMINISTRATION: This activity includes all work associated with the administration, operation, and management of recreation settings, other than facilities and sites for public use. The unit of measure is PAOT DAYS.
A10	TRAIL RECONSTRUCTION: This activity includes all work assciated with the survey and design and actual reconstruction of trail facilities and structures. The unit of measure is MILES.
A11	TRAIL CONSTRUCTION: This activity includes all work associated with the development of surveys and design for the actual construction of new trails. The unit of measure is MILES.
A12	TRAIL SYSTEM MAINTENANCE AND OPERATION: This activity includes all work associated with trail system operation and maintenance based on land management planning objectives and anticipated types and amounts of visitor use. The unit of measure is MILES.
B01	WILDERNESS PLANNING: This activity includes the preparation and review of wilderness management plans for new and existing wilderness through the approval stage. This includes EA and EIS reports. The unit of measure is PLANS.
B03	WILDERNESS USE ADMINISTRATION: This activity includes the administration and management of the wilderness resource and its use to protect natural condition. It also includes permit system administration and routine work to prevent or eliminate unsanitary or unsightly conditions. The unit of measure is PAOT DAYS.
C01	WILDLIFE AND FISH SURVEYS, PLANNING, PRESCRIPTIONS, MONITORING, COOPERATION, AND ADMINISTRATION: This activity includes all work associated with wildlife, fish, threatended and endangered animal and plant studies, surveys, prescriptions, monitoring, consultation, planning and cooperation with State and other Federal agencies. The unit of measure is ACRES.

Code	Description of Work Activity and Definition
C02	NON-STRUCTURAL HABITAT IMPROVEMENT: This activity includes all non-structural habitat improvements that benefit, wildlife, fish, or threatended and endangered animals and plants. The unit of measure is ACRES.
C03	STRUCTURAL HABITAT IMPROVEMENT: This activity includes all structural habitat improvements which directly benefit specified wildlife, fish or threatended and endangered animal and plant species. The unit of measure is STRUCTURES.
C04	STRUCTURAL HABITAT MAINTENANCE: This activity includes all maintenance of structures installed to improve wildlife, fish or threatened and endangered animal and plant habitat as defined in activity C03. The unit of measure is STRUCTURES.
D01	RANGE RESOURCE PLANNING: This activity includes all work associated with the preparation, updating or revision of allotment or territory management plans and other planning required for site specific actions. The unit of measure is PLANS.
D02	RANGE RESOURCE INVENTORY: This activity includes all work associated with the inventory and analysis of forage resource production potential. It also includes the systematic inventory of National Forest System lands for noxious farm weeds and the summarization and evaluation of the noxious farm weed inventory. The unit of measure is ACRES.
D03	RANGE NON-STRUCTURAL IMPROVEMENT: This activity includes all work required for revegetation, range plant control, forage improvement activities, and control actions implemented on noxious farm weed infestations for the first time. The unit of measure is ACRES.
D04	RANGE NON-STRUCTURAL IMPROVEMENT MAINTENANCE: This activity includes all work performed to maintain revegetation, range plant control, noxious farm weed control, forage improvement projects, and follow-up practices necessary to insure the success of the initial treatments. The unit of measure is ACRES.
D05	RANGE STRUCTURAL IMPROVEMENT - NEW: This activity includes all work performed in the installation or replacement of fences, water developments or other structural improvements. The unit of measure is STRUCTURES.
D06	RANGE STRUCTURAL IMPROVEMENTS - MAINTENANCE: This activity includes all work required to maintain fences, water developments or other structures. The unit of measure is STRUCTURES.
D07	RANGE ADMINISTRATION AND MANAGEMENT: This activity includes all work associated with range administration and management, such as maintaining use records; meeting with permittees and associations; coordination with land owners or governmental agencies; and monitoring use and compliance. The unit of measure is CASES.
D08	ECOSYSTEMS DESCRIPTIONS AND INVENTORIES: This activity includes all work associated with describing and sampling ecological soil and plant communities including the preparation of management guides and implementation. The unit of measure is PUBLICATIONS.
E00	TIMBER RESOURCE MANAGEMENT PLANNING AND INVENTORIES: This activity includes the necessary steps to develop and prepare the timber resource portion of the forest land and resource management plan including timber inventory and analysis of data, determination of rotations, development of harvest schedules and regulation of cut, preparation of environmental statements, including public involvement, and writing of the plan. Also included is maintenance of plans and forest management control records. The unit of measure is PLANS.
E01	REGENERATION CUTTING (HARVEST): This activity involves the removal of trees to initiate the stand regeneration process or to assist regeneration already present. This includes regeneration cutting methods for both even-aged and uneven-aged management. The unit of measure is ACRES.

Code	Description of Work Activity and Definition
E02	INTERMEDIATE CUTTING (HARVESTS) AND OTHER CHANGES: This activity includes intermediate cuttings and other changes concerning any removal of trees between the time of stand establishment and regeneration cutting. Included are improvement cutting, thinning, sanitation cutting and special cutting for other than silvicultural purposes. The unit of measure is ACRES.
E03	SILVICULTURAL EXAMINATION AND PRESCRIPTION: This activity includes the silvicultural examination process used to gather detailed in-place field data necessary to identify management opportunities and direction for the timber resource within a small subdivision of forest area, i.e. a stand or compartment. The typical procedure includes these steps: (1) locates, identifies, and measures the components of the ecosystem or ecosystems indigenous to the unit; (2) graphically displays the ecosystem components, including stand and resource unit locations, principle features, problem areas and management opportunities on aerial photographs, maps, aerial photomosiacs; (3) establishes and maintained a dynamic stand, resource unit, and composite compartment data file, using computer and microfilm support systems; and (4) evaluates these data. The preparation of stand prescriptions, recommended solutions to problems, and listing of management alternatives is also included in this procedure. The unit of measure is ACRES.
E04	REFORESTATION: This activity comprises all treatments and activities aiding the re-establishment of a tree cover or tree crop on forested land. It includes the preparation of the ground surface prior to natural seedfall, natural sprouting, artifical seeding, or planting. It also includes the setting out of seedlings, cuttings, or transplants, and the scattering or placement of seed over a designated area for the re-establishment of a forest stand. It includes animal control measures. The unit of measure is ACRES.
E05	TIMBER STAND IMPROVEMENT: This activity includes timber stand improvement comprising all noncommercial intermediate cuttings and other treatments to improve the composition, constitution, condition, and increment of a timber stand. Included are these specific activities: precommercial thinning, release and weeding, pruning, and fertilizing of established stands. Other specific activities supporting timber stand improvement are control of understory vegetation and animal control measures. The unit of measure is ACRES.
E06	TIMBER SALE PREPARATION: This activity includes the entire process of preparing National Forest timber for sale. Timber sale preparation begins with the development of a position statement which identifies the timber harvest project area and the entry of the proposal in the forest timber sale program. Specific components of sale preparation are position statement development; sale area design; sale plan implementation; preparation of sample contract, bid form, advertisement, prospectus, appraisal report, final cost determinations, all necessary maps, and review of the proposed sale and the documents involved. Also part of sale preparation are sale offering, bid opening and sale award. This activity is completed when the sale is awarded to the purchaser. The unit of measure is THOUSAND BOARD FOOT (MBF).
E07	TIMBER HARVEST ADMINISTRATION: This activity includes all aspects of supervising, administering, guiding, assisting, and controlling the harvest of timber under contract to timber purchasers, including long-term sales. Specific components of timber harvest administration are scaling and check scaling, inspection of contract operations, contract administration, management of timber sale accounts, contract modifications, rate redeterminations, breach actions, and the administration of product permits, personal use firewood permits, and free use. Also included are activities related to unauthorized cutting under the timber sale contract when law enforcement action is not warranted. The unit of measure is THOUSAND BORAD FOOT (MBF).
E08	NURSERY MANAGEMENT : This activity includes nursery management for all operation and maintenance project work associated with forest tree production done at Forest Service owned nurseries or elsewhere by Forest Service nursery personnel including seed or cone collection for Forest Service use. The unit of measure is NURSERIES.

Code	Description of Work Activity and Definition
E09	GENETIC FOREST TREE IMPROVEMENT PROGRAM: This activity includes genetic forest tree improvement program work such as establishment of improved seed orchard areas which result in yield increases from gentically superior planting stock or seed. The unit of measure is ACRES.
F01	INVENTORY: This activity includes all work associated with conducting and updating soil and water inventories. The unit of measure is ACRES.
F02	PLANNING: This activity includes all work associated with development of plans for soil, water, and air resource projects and special studies. The unit of measure is PLANS.
F03	IMPROVEMENT: This activity includes all work associated with improvement measures taken to increase quality and quantity of water resources and soil productivity in accordance with improvement plans. The unit of measure is ACRES.
F04	ADMINISTRATION/MANAGEMENT: This activity includes all work associated with the administration of soil, water, and air programs. The unit of measure is PLANS.
F05	RESOURCE INVENTORY REPORTS: This activity includes the work associated with the preparation of NCSS manuscripts and in-service soil and water inventory reports. The unit of measure is REPORTS.
F07	RIGHTS/USE MANAGEMENT: This activity includes all work associated with the inventory of current water uses, water requirements, and water requirements, along with processing applications and claims, handling adjudications, and managing acquired water rights.
F08	RESOURCE IMPROVEMENTS MAINTENANCE: This activity includes all work associated with scheduled periodic treatments designed to assure the continued functioning of implemented watershed improvement projects. The unit of measure is ACRES.
F09	MONITORING: This activity includes the recurrent planned measurement of specific soil, water, and air paramenters, and the action needed for maintaining quality control and storage of data. The unit of measure is PLANS.
G01	GENERAL TECHNICAL INVENTORY AND EVALUATION: This activity includes all work associated with in-service generated, area-wide geologic or mineral studies for program planning, withdrawals, exchanges, acquisitions, and identification of potential development projects. It includes such activities as identification of coal lease tracts, location of special interest geologic areas, delineation of geologic hazard areas, inventory of common variety mineral materials, evaluation of aquifers and recharge areas, characterization of geologic conditions relative to potential construction projects, reconnaissance geologic mapping, literature review, surface sampling, analysis, and preparation of geologic or mineral reports.
G02	SITE-SPECIFIC TECHNICAL INVESTIGATIONS: This activity includes all in-service generated, site-specific geologic or minerals investigations for potential development of mineral or geologic resources/projects, or in support of other resource projects in planning stages. Includes such activities as validity examinations on mining claims, testing of potential quarry sites for quality and quantity, aquifer testing at potential camp sites, evaluation of geologic conditions and hazards on potential development sites, detailed geologic mapping, core drilling, foundation testing, pump tests, soil and rock sampling for laboratory analysis, calculations of quantities, analysis of findings relative to potential projects and preparation of reports. The unit of measure is SITES.

Code	Description of Work Activity and Definition
G03	PROCESSING OF EXPLORATION PROPOSALS: This activity includes all work associated with processing out-service generated requests to prospect or explore for minerals or geologic resources, where exploration is not under terms of leases, contracts or established projects. It includes such activities as Forest Service prospecting permits, coal exploration licenses, "notices of intent" to operate on mining claims (regardless of whether "rights" are established), ground water investigations by State or other Governmental agencies, determiniation of disturbance levels, identification of impacted uses and resources, analysis of alternatives, development of stipulations for preventionor mitigation of adverse impacts and approval or rejection of proposals. The unmit of measure is CASES.
G04	PROCESSING OF LEASE APPLICATIONS: This activity includes all work associated with processing out-service generated proposals for leasing or contracting for minerals and geologic resources. It includes such activities as oil and gas, geothermal, coal, or mineral leasing; BLM prospecting permits for leasable minerals (e.g. phosphate, sodium) that could lead to preference right leases; leasing or contract proposals for ground water, underground space, and common variety minerals materials; identification of possible impacted uses and resources; analysis of alternatives; evaluation of benefits and costs; coordination with other agencies; development of stipulations for prevention or mitigation of adverse impacts; and development of the Forest Service decision or recommendation. The unit of measure is LEASES.
G05	PROCESSING OF SITE-SPECIFIC DEVELOPMENT PROPOSALS: This activity includes all work associated with processing specific development proposals for mineral and geologic resources under terms of leases, contracts, or authorized projects. This includes such activities as plans of operation on mining claims (regardless of whether "rights" are established), plans of operation on geothermal leases, coal mining and reclamation plans, applications for permits to drill, and other plans of operation on oil and gas leases, exploration plans under the terms of BLM prospecting permits, proposals to develop and operate common variety mineral material pits and quarries, specific plans for wells and facilities for ground water or underground space development, identification of site-specific environmental concerns, analysis of alternatives, coordination with other agencies, development of stipulations for prevention or mitigation of adverse impacts, and development of the Forest Service decison for each specific plan. The unit of measure is PLANS.
G06	ADMINISTRATION OF OPERATIONS: This activity includes all work associated with administration of approved development operations for minerals and geologic resources. It includes such activities as operations under terms of leases, permits or contracts for minerals, including common variety mineral materials; operations on mining claims; operations under leases or contracts for ground water or underground space development; operations on in-service common variety mineral material projects; inspection of operations for compliance with approved plans; monitoring of operations to determine effects; coordination with other agencies; and inspection of reclaimed sites prior to release of bond. The unit of measure is PLANS.
G07	CONTESTS, HEARINGS, AND APPEALS: This activity includes all work associated with administrative or judicial contests, hearings, or suits in which the development of mineral or geologic resources is the central issue. The unit of measure is CASES.
G08	RESERVED AND OUTSTANDING RIGHTS: This activity includes all work associated with protection of surface resources in the exercise of privately held mineral rights on lands where the Forest Service has administrative responsibility for the surface. This also includes lands where minerals are government-owned and the surface is not, but the Forest Service has a degree of administrative responsibility. The unit of measure is CASES.

Code	Description of Work Activity and Definition
J01	SPECIAL USE MANAGEMENT (NON-RECREATION): This activity includes all work associated with (1) processing and approval of applications for new permits, leases, easements and amendments other than road or trail grants or easements; (2) administration of special use authorizations other than road or trail grants or easements, including the collection of fees, inspections, and updating or revision of authorizations; (3) periodic review and revison of fees for charge special use authorizations other than road or trail grants or easements; and (4) the termination and suspension of special use authorizations. The unit of measure is CASES.
J02	RIGHT-OF-WAY GRANTS FOR ROADS AND TRAILS: This activity includes all work in granting and administering: (1) easements under the 1964 Act, 23 USC 107(d) and 317 by DOT; (2) permanent or term easements, permits or licenses for construction and maintenance of roads or trails under FLMPA of 1976; and (3) administration of permits or licenses granted prior to 1976. The unit of measure is RIGHTS-OF-WAY.
J03	FEDERAL ENERGY REGULATORY COMMISSION LICENSE AND PERMITS: The unit of measure is APPLICATIONS.
J04	WITHDRAWALS, MODIFICATIONS AND REVOCATIONS: This activity includes petitions, recommendations and reports required by BLM and FERC to effect withdrawals, modifications, or revocations and periodic reviews of existing withdrawals. This includes EA/EIS reports and review of mineral reports and other supporting data. The unit of measure is CASES.
J05	LAND STATUS MAINTENANCE: This activity includes actions in determining the status of NFS lands and interests in lands and updating and maintaining land status records. The unit of measure is ENTRIES.
J06	PROPERTY BOUNDARY LOCATION: The unit of measure is MILES.
J07	PROPERTY BOUNDARY AND CORNER MAINTENANCE: The unit of measure is MILES.
J08	NATIVE AMERICAN LAND TITLE CLAIMS MANAGEMENT: This activity includes all actions necessary to investigate and resolve claims to NFS lands by Native Americans. The unit of measure is CLAIMS.
J09	OTHER LAND TITLE CLAIMS MANAGEMENT: This activity includes actions (including litigation) necessary to resolve adverse occupancy encroachment, color, or claims of title or other conflict or dispute in ownership in which the claimant is asserting ownership of the land. The unit of measure is CLAIMS.
J10	ENCROACHMENT: This activity includes all actions taken to identify and resolve unauthorized occupancy and encroachments on National Forest land not involving land title claims. The unit of measure is CASES.
J11	LANDOWNERSHIP PLANNING: This activity includes the study and analysis of (1) National Forest System land to determine its suitablility for retention or disposal from the National Forest System and (2) the study and analysis of private land to determine its suitability for addition to the National Forest System. It also includes special studies directed by the Congress. The unit of measure is PLANS.
J12	LAND ADJUSTMENT PLANNING: This activity includes program level planning for implementing boundary adjustment, acquistion, exchange or disposal of land or interests in lands, preparation of EA/EIS reports, and special planning directed by Congress or legislation. The unit of measure is PLANS.
J13	LAND EXCHANGE: This activity includes processing of exchange of lands or interests in lands. It includes proposals, appraisals, negotiations, title processing, and preparation of EA/EIS reports and their updating or revision during the exchange process. The unit of measure is ACRES.
J14	LAND EXCHANGE - CASH EQUALIZATION: This activity includes land or interests in land received in an exchange through cash equalization paid by the Forest Service. The unit of measure is ACRES.

Code	Description of Work Activity and Definition
J15	LAND ACQUISTION: This activity includes all work involving acquistion of land or interest in land by purchase (including condemnations, but excepting rights-of way) and donation. The unit of measure is ACRES.
J16	LAND TRANSFERS: This activity involves all work in the transfer of land or interests in land between the Forest Service and other Federal agencies. The unit of measure is CASES.
J17	LAND SALES, GRANTS AND SELECTIONS: This activity includes all work related to the sale or grant of lands pursuant to the Townsite Act or other applicable laws and regulations. The unit of measure is CASES.
J18	RIGHTS-OF-WAY ACQUISITION: This activity includes all work involved in acquiring rights-of-way, including condemnation proceedings, for roads, trails or other purpose. The unit of measure is CASES.
J19	RIGHTS-OF-WAY COST-SHARE AGREEMENTS: This activity includes all work involving negotiation, preparation, administration, and supplementation of cost-share agreements for rights-of-way for roads or trails which provide for participating parties to assume proportionate shares of construction and maintenance. The unit of measure is AGREEMENTS.
J20	GEOMETRONICS: This activity includes all work needed to support National Base Series Mapping programs. The unit of measure is DOLLARS.
J21	REGIONAL LEVEL PLANNING: This activity includes all regional planning actions related to land and resource management planning, regional plan preparation, RPA program and and program development and budgeting. The unit of measure is DOLLARS.
J22	FOREST LEVEL PLANNING: This activity includes all National Forest level planning activities related to land and resource management planning, regional planning, RPA program, and program development and budgeting. The unit of measure is DOLLARS.
J23	RPA ASSESSMENT: This activity includes work on multi-resource inventory and coordination with State and other Federal agencies in the development of periodic assessments required by the Act. The unit of measure is DOLLARS.
J24	RPA PROGRAM: This includes all national level planning activities and S&PF and Research planning activities pertaining to development of the RPA program, including coordination with State and other Federal agencies. The unit of measure is DOLLARS.
L01	TRANSPORTATION SYSTEM PLANNING AND INVENTORY: This activity includes all work relating to planning for National Forest transportation systems and operation and maintenance of a transporation system inventory. The unit of measure is PLANS.
L02	ARTERIAL ROAD PRECONSTRUCTION: This activity includes all work involving reconnaissance and route analysis, location, survey, and design and field review for arterial roads. The unit of measure is MILES.
L03	ARTERIAL ROAD CONSTRUCTION ENGINEERING: This activity includes all work involving construction staking and construction inspection for arterial roads. The unit of measure is MILES.
L04	ARTERIAL ROAD CONSTRUCTION: This activity includes the building of a roadway and related facilities to a specified standard, including surface areas, shoulders, parking and side areas, and associated structures and traffic control devices for safe and efficient utilization. The unit of measure is MILES.
L05	ARTERIAL ROAD RECONSTRUCTION: This activity involves the rebuilding of an existing roadway and related facilities that has deteriorated to a point that it can no longer be used for its designed purpose. Reconstruction includes all of the types of work described in L04, Arterial Road Construction, above. The unit of measure is MILES.

Code	Description of Work Activity and Definition
L06	COLLECTOR ROAD PRECONSTRUCTION: This activity includes all work involving reconnaissance and route analysis, location, survey, and design and field review for collector roads. The unit of measure is MILES.
L07	COLLECTOR ROAD CONSTRUCTION ENGINEERING: This activity includes all work involving construction staking and construction inspection for collector roads. The unit of measure is MILES.
L08	COLLECTOR ROAD CONSTRUCTION: This activity includes the building of a roadway and related facilities to a specified standard, including surface areas, shoulders, parking and side areas, and associated structures and traffic control devices for safe and efficient utilization. The unit of measure is MILES.
L09	COLLECTOR ROAD RECONSTRUCTION: This activity involves the rebuilding of an existing roadway and related facilities that has deteriorated to a point that it can no longer be used for its designed purpose. Reconstruction includes all of the types of work described in L08, Collector Road Construction, above. The unit of measure is MILES.
L10	LOCAL ROAD PRECONSTRUCTION: This activity includes all work involving reconnaissance and route analysis, location, survey, and design and field review for local roads. The unit of measure is MILES.
L11	LOCAL ROAD CONSTRUCTION ENGINEERING: This activity includes all work involving construction staking and construction inspection for local roads. The unit of measure is MILES.
L12	LOCAL ROAD CONSTRUCTION: This activity includes the building of a roadway and related facilities to a specified standard, including surface areas, shoulders, parking and side areas, and associated structures and traffic control devices for safe and efficient utilization. The unit of measure is MILES.
L13	LOCAL ROAD RECONSTRUCTION: This activity involves the rebuilding of an existing roadway and related facilities that has deteriorated to a point that it can no longer be used for its designed purpose. Reconstruction includes all of the types of work described in L12, Local Road Construction, above. The unit of measure is MILES.
L14	TIMBER PURCHASER ROAD CONSTRUCTION: This activity includes the building, or rebuilding, of a roadway and related facilities to a specified standard by the timber purchaser. The unit of measure is MILES.
L15	TIMBER ROAD CONSTRUCTION SUPPLEMENTATION AND CONTRIBUTION: This activity includes the miles of road construction to which addition of R&T funds to purchaser credit is necessary to construct a road to desired standard. Contributed funds are used to pay for a portion of the work or materials needed to construct a road only to the standard needed for a timber sale and which properly could have been paid for by timber credits if they had been available. The unit of measure is MILES.
L16	BRIDGE AND MAJOR CULVER PRECONSTRUCTION: This activity involves engineering survey, design, and field review for bridges and major culverts. The unit of measure is BRIDGES/CULVERTS.
L17	BRIDGE AND MAJOR CULVERT CONSTRUCTION ENGINEERING: This activity includes all engineering construction staking and inspection for bridge and major culvert construction. The unit of measure is BRIDGES/CULVERTS.
L18	BRIDGE AND MAJOR CULVERT CONSTRUCTION AND RECONSTRUCTION: This activity includes construction and reconstruction of a permanent structure, including supports and asssociated facilities, which carries a roadway over a depression or obstacle. Major culverts, (35 square feet or larger) and low water crossings are considered bridges. The unit of measure is BRIDGES/CULVERTS.
L19	ROAD OPERATION: This activity includes the work associated with (1) traffic management, (2) maintenance managment, and (3) road maintenance activities on the Forest Road Development System. The unit of measure is MILES.

Code	Description of Work Activity and Definition
L20	TRAIL INVENTORY AND PLANNING: This activity includes planning of the National Forest Development Trail System and related facilities to provide input to, or meet objectives developed in the land management planning process. The unit of measure is PLANS.
L21	TRAIL RECONSTRUCTION: This activity includes work in trail reconnaissance, location and selection, and survey and design. The unit of measure is MILES.
L22	TRAIL CONSTRUCTION-RECONSTRUCTION: This activity includes the work involving inspection of trail construction and building and rebuilding of trails. The unit of measure is MILES.
L24	FA&O FACILITY CONSTRUCTION AND RECONSTRUCTION: This activity includes all preconstruction engineering, construction engineering, and construction or reconstruction work of capital investments to support fire, administrative, and other multi-functional activities. This also includes potable water systems. The unit of measure is PROJECTS.
L25	FA&O FACILITY MAINTENANCE: This activity includes all work done to provide maintenance and minor betterment to FA&O structures, potable water systems, waste water treatment facilities, and solid waste disposal facilities. The unit of measure is DOLLARS.
L28	DAM ADMINISTRATION AND MANAGEMENT: This activity includes all work involving dam construction, reconstruction, operation, maintenance, and inspections. The unit of measure is DAMS.
L29	TIMBER PURCHASER ROAD RECONSTRUCTION: This activity includes reconstruction by the timber purchaser of existing roadway and related facilities to a specified standard. The unit of measure is MILES.
P01	FIRE MANAGEMENT PLANNING AND ANALYSIS: This activity includes the inventory and analysis actions related to devloping fire managment plans for a fire management area, forest, or region at a program level. The unit of measure is PLANS.
P02	FIRE PREVENTION: This activity includes all actions taken to reduce the number of man-caused wildfires, including determination of fire cause, fire prevention analysis, reduction of fire risk, fire hazards, public education, personal contacts, and determining need for closures and regulated use. The unit of measure is DOLLARS.
P03	FIRE DETECTION: This activity includes all actions taken to detect forest fires. The unit of measure is DOLLARS.
P04	INITIAL ATTACK FORCES - PRIMARY: This activity includes actions taken to maintain the capability to respond with fire financed personnel, equipment, and supplies for immediate action toward the suppression of forest fires within pre-established objectives and a predetermined action plan. The unit of measure is PERSONS.
P05	SECONDARY ATTACK FORCES: This activity includes cooperators, individuals, groups, or agencies that are prepared in advance to provide an initial attack response toward the suppression of forest fires within a predetermined action plan. The unit of measure is PERSONS.
P06	FIRE REINFORCEMENTS: This activity includes the work in establishing, training, and maintaining additional pre-planned forces and equipment held in reserve to be activated when initial attack fails to control fires. The unit of measure is PERSONS.
P07	FOREST FIRE SUPPORT AND FACILITATING SERVICES: This activity includes support to the fire presuppression organization that cannot be identified to other secondary accounts, such as warehousing, fire cache operation and maintenance, dispatching, computerized fire systems, rents, communications and utilities and fire weather data collection and forecasting. The unit of measure is PERSONS.
P08	INITIAL ATTACK FIRE SUPPRESSION ACTION: This activity includes actions taken to contain or suppress fires within pre-established objectives. The unit of measure is DOLLARS.

Code	Description of Work Activity and Definition
P09	ESCAPED FIRE SUPPRESSION: This activity includes actions to contain and control escaped fires. The unit of measure is DOLLARS.
P10	FUEL MANAGEMENT INVENTORY: This activity includes the collection, classification, and display of fuels inventory data. The unit of measure is ACRES.
P11	TREATMENT OF ACTIVITY FUELS: This activity includes the application of fuel treatment practices to those fuels generated from management activities rated higher than M-M or its equivalent or exceeding the preactivity fuel rating, which ever is lower. The unit of measure is ACRES.
P12	TREATMENT OF NATURAL FUELS: This activity includes the application of a fuel treatment practice to those naturally occurring fuels rated higher than M-M or its equivalent, either developed following damage from weather, insects, disease, or fire or from normal accumulation of vegetative material. The unit of measure is ACRES.
P13	FUELBREAK CONSTRUCTION: This activity includes the work necessary to modify or change a strip of heavy, hazardous fuels to lighter, less dense, fuel-type along strategically situated ridges or other natural land features. The unit of measure is ACRES.
P14	FUEL TREATMENT AREA MAINTENANCE: This activity includes periodic maintenance of areas that previously received an initial fuel treatment activity to reduce its flammability. The unit of measure is ACRES.
P19	AERIAL TRANSPORTATION OF PERSONNEL: This activity includes all work of providing aircraft services for transportation of personnel. The unit of measure is DOLLARS.
P20	AERIAL TRANSPORTATION OF GOODS: This activity includes all work of providing aircraft services for transportation of goods. The unit of measure is DOLLARS.
P21	AERIAL APPLICATION OF MATERIALS: This activity includes all work of providing aircraft services for aerial application of fire retardants, insect, disease and vegetation control chemicals, fertilizers, explosives and incendaries. The unit of measure is DOLLARS.
P22	AERIAL PLATFORM: This activity includes all work of providing aircraft as platforms for observation, remote sensing, and as leadplanes for fire attack supervision and detection. The unit of measure is DOLLARS.
P24	LAW ENFORCEMENT: This activity includes the detection, prevention, and investigation of violations of Federal laws and regulations on National Forest lands, enforcement action, by Forest Service personnel (when violations occur), patrols for compliance with laws and regulations; issuing, posting, and enforcing orders and closures, investigating alledged violations and potential claims, documentation to resolve claims and court preparation and appearances. It also includes laison with Federal, State, and local law enforcement agencies. The unit of measure is DOLLARS.
P25	COOPERATIVE LAW ENFORCEMENT: This activity includes the enforcement of state and local law on National Forest System lands relating to the protection of persons and their property as provided for by cooperative agreements with the state or political subdivision thereof. The unit of measure is PATROL-UNITS.
P34	FOREST PEST MANAGEMENT - SURVEYS AND TECHNICAL ASSISTANCE: The surveys are for detection and evaluation of insects, disease, and environmental pollutants which affect forest vegetation.
T01	LINE MANEGEMENT: This activity includes all work done by Forest Supervisors and District Rangers. The unit of measure is DOLLARS.
T02	PROGRAM SUPPORT: This activity includes all administrative, program, and other support work which can not be identified with a specific program. The unit of measure is DOLLARS.

Appendix B – Supplementary Timber Resource Exhibits

Exhibit 1. Timber Productivity Classification

Potential Growth (cubic feet/acre/year)	Tentatively Suitable Timberland (acres)	Not-Suitable Forest Land (acres)
Less than 20	0	719,603
20-49	381,692	142,968
50-84	108,516	41,877
Total	490,208	904,448

Exhibit 2. Anverage Annual Allowable Sale Quantity and Timber Sale Program Quantity

Method of Harvest	Allowable Sale Quantity	
	Sawtimber MMCF	Products MMCF
Clearcutting	0	0
Shelterwood seed cutting	2.7	0
Sherlterwood removal cutting	3.8	0
Commercial thinning	7.9	0.2
Total 1/	14.4	0.2
Other additional sales 2/	0	2.2

Allowable sale quantity: 14.6 MMCF; or 73.3 MMBF 3/
Total timber sale program quantity 4/: 16.8 MMCF; or 84.3 MMBF 3/

1/ Includes only chargeable volumes from suitable lands.
2/ Includes only nonchargeable volumes from suitable and, or unsuitable lands.
3/ Based on local unit of measure.
4/ Total of allowable sale quantity and other additional sales.

Exhibit 3. Average Annual Allowable Sale Quantity and Long Term Sustained Yield Capacity MMCF

Decade								
1	2	3	4	5	10	15	20	LTSYC
14.4	14.4	15.8	15.8	15.8	15.8	18.9	20.7	20.7

Exhibit 4. Present and Future Forest Conditions in MMCF and MMBF

Present Forest Condition and Unit of Measure	Suitable Timberland	Not-Suitable Timberland
Growing stock in MMCF	1,053.4	389.6
Growing stock in MMBF	5,267.0	1,948.0
Annual net growth in MMCF	15.7	5.6
Annual net growth in MMBF	78.5	28.0
Annual mortality in MMCF	3.7	1.4
Annual mortality in MMBF	18.5	7.0

Present Forest Condition and Unit of Measure	Suitable Timberland	Not-Suitable Timberland
Growing stock in MMCF	912.3	N/A
Growing stock in MMBF	4,561.5	N/A
Annual net growth in MMCF	20.7	N/A
Annual net growth in MMBF	103.5	N/A
Rotation age	120 2/	N/A

1/ Conversion factor used is 1.0 cubic feet = 5.0 board feet.

2/ Typical rotation age for regenerated stands; rotations range from 120 to 240 years.

Exhibit 5. Distribution of Age Classes in Decade 20 in M Acres

Age Class														
10	30	50	70	90	110	130	150	170	190	210	230	250	270	290+
2.3	84.8	44.8	105.2	52.3	62.3	31.0	31.6	5.4	1.4	26.3	128.5	0	11.8	87.4

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